ADOLESCENT PREGNANCY IN NEW ZEALAND: AN EXPLORATORY STUDY

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MELANIE JANE BLEACH

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ABSTRACT

The present study investigates the relationship between adolescent pregnancy and demographic characteristics, self esteem, alcohol use and attachment styles in romantic relationships, and explores the links between these three variables. The 14 participants in the pregnant group were recruited from seven agencies which provide services for pregnant adolescents. The 35 participants in the control group were female students attending a Christchurch secondary school. For many of the analyses these subjects were divided into two groups based on whether they are sexually active or not.

Results showed that non-pregnant participants used contraception more frequently that pregnant subjects, sexually active participants drank more alcohol that non-sexually active subjects, and that paticipants with low self esteem were more likely to be insecurely attached and to use alcohol. These results were consistent with past research from New Zealand and overseas regarding contraceptive use and alcohol use, and which has established that adolescent problem behaviours are interrelated.

The results of the present study demonstrate the need for prevention programmes to address alcohol use and contraceptive issues. Despite the insignificant findings regarding self esteem and attachment styles, it is also considered important that these issues are included in prevention programmes, as adolescent self esteem is lower than in the adult population, and more adolescents in the present study were found to be insecurely attached in their romantic relationships in comparison with adult samples. Therefore the

present study lends support to the broad-based model being used in contemporary prevention programmes.

Future research should build on many of the issues raised in the present study, such as the relationship between adolescent pregnancy and sexual abuse, and age of first intercourse. It is also suggested that empowerment or assertiveness be measured instead of self esteem.

CHAPTER ONE

INTRODUCTION

PART ONE

GENERAL INTRODUCTION

Despite increasingly sophisticated technology, and less rigid and oppressive social structures in western societies, the uncertainty and instability often experienced during adolescence is more intense for those growing up in the 1990's.

Problems facing contemporary youth include experimentation with alcohol, drugs and unprotected sexual activity, as well as an increasing amount of juvenile crime, school drop-out, adolescent pregnancy, sexually transmitted diseases and HIV/AIDS diagnoses (Allen, Aber, & Leadbeater, 1990; Schultz, 1986; Takanishi, 1993; Walton, Ackiss, & Smith, 1991). Exposure to violence, (especially homicide), and rates of suicide have increased for American adolescents, with large numbers of adolescents suffering from depression and being subjected to various forms of abuse (Adcock, Nagy, & Simpson, 1991; Boyer & Fine, 1992; Takanishi, 1993).

These problems are exacerbated by the rapid social change which has led to less well-defined social norms for adolescents to base their behaviour on. The decline of the traditional family, increasing divorce rates, poverty, urbanization, unemployment and less rigidly defined gender roles can add to the confusion surrounding the period of adolescence. Poverty and the changing structure of the family leaves the socialization of many adolescents to occur on the street (Hurrelmann, 1990; Walton et al., 1991).

These behaviours and situations compromise the health of adolescents. Thirty-one million American adolescents exhibit at least one major health problem, with many also suffering from psychological problems (Dougherty, 1993). The major cause of disability for American adolescents is mental disorder (Adcock et al., 1991). However adolescents requiring health care face a further setback, as their access to health care is limited by financial barriers, legal barriers (as parental consent or notification is often required) and health care providers are seldom trained to deal with the specific needs of adolescents (Dougherty, 1993).

These problems experienced by adolescents have negative consequences for the individual, (in terms of educational and occupational setbacks), and for the social institutions which deal with these adolescents, as well as the tremendous financial cost. Each year's school drop-outs cost the United States an estimated $260 billion dollars throughout their lifetime, with similar estimates for other adolescent problem behaviours (Allen et al., 1990).

In light of these findings, the stage of adolescence, and its ensuing problems, have now become a major policy issue, and significant improvements are currently being made

to the way research into adolescence is conducted (Jessor, 1993; Mott & Haurin, 1988; Zaslow & Takanishi, 1993). Attempts are now being made to prevent many of these problem behaviours and situations from occuring.

The following investigation and review addresses these issues within the context of one of these problem behaviours, adolescent pregnancy. The intention of this chapter is to outline the stage of adolescence and to give an overview of the available literature on adolescent pregnancy. The aim of Part Two is to provide an understanding of physical, cognitive and identity development which helps to put the concept of pregnancy during this stage into perspective. Of particular relevance is the development of risk-taking behaviours during this stage, as this clarifies the health-compromising behaviour which tends to be characteristic of adolescence, and reinforces the fact that adolescent pregnancy does not occur in isolation but is related to other problem behaviours.

General information on adolescent pregnancy is discussed in Part Three, including the conceptualization of adolescent pregnancy as a social problem, the prevalence of adolescent pregnancy in New Zealand and overseas, an overview of the methodological problems inherent in research of this kind, and the various theories of adolescent sexual behaviour and pregnancy.

Part Four reviews the literature on adolescent pregnancy. Specific topics covered include the consequences and antecedents of adolescent pregnancy, with self esteem, alcohol use and attachment styles being discussed in detail. Literature on the prevention of adolescent pregnancy is also reviewed, with the characteristics of successful prevention programmes being outlined.

The final section of the introduction addresses the rationale and aims of the current study, with the specific hypotheses being stated.

PART TWO

ADOLESCENT DEVELOPMENT

While pregnancy is an essential, and usually wonderful, aspect of human nature, when it occurs during adolescence it provides a unique set of problems for the adolescents involved, their parents, and society in general. In order to understand these problems it is necessary to first have an accurate picture of what this developmental stage entails.

The notion of adolescence as a discrete stage is ambiguous. The beginning of adolescence is usually clearly marked by the onset of pubertal changes, however the end of adolescence is less clear, as it seems to be dependent upon psychological and social changes, as opposed to physical changes (Peterson, 1989; Reber, 1985). The period of adolescence is one of transition, which often brings with it uncertainty and confusion. The major changes characteristic of this stage are physical maturation, emotional

development, a decline in dependence on the family, cognitive development, new social pressures and the establishment of a unique identity (Baker, Thalberg, & Morrison, 1988; Gruber & Chambers, 1987; Peterson, 1989; Trad, 1993; Weinstein & Rosen, 1991).

2:1 PHYSICAL DEVELOPMENT

The physical and biological changes which occur during adolescence include changes in facial and bodily hair, a 'height spurt', growth of the reproductive organs, menarche for girls, the development of secondary sex characteristics, and maturing of the sex organs which release sex hormones (Peterson, 1989). This release of sex hormones is thought to play a role in the onset of sexual activity, as it can increase sexual arousal (Brooks-Gunn & Furstenberg, 1989).

Along with these physical changes comes the tendency to define oneself and others as sexual. Adolescents begin to question what it means to be a man or woman and which sexual behaviours and thoughts are acceptable (Welbourne-Moglia & Moglia, 1989). Therefore, these physical changes cause adolescents to challenge established norms and therefore, facilitate psychological development.

2:2 COGNITIVE DEVELOPMENT

Cognitive development during adolescence, according to Piaget, involves a transition from concrete operational reasoning to formal-operational reasoning, which influences personality development, emotional development and interpersonal relationships (Peterson, 1989). This initiates the development of an ability to focus on future events, consider long-term consequences, become less egocentric, see things from a different perspective, evaluate alternatives, and develope a better understanding of chance and probability (Gruber & Chambers, 1987; Holmbeck, Crossman, Wandrei, & Gasiewski, 1994; Peterson, 1989; Trad, 1993).

This cognitive development is closely linked to the adolescent's ability to make competent decisions, as they begin to take responsibility for decisions which were previously made by their parents. Therefore this aspect of development has important implications for sexual decision-making during adolescence (Owens, 1992; Peterson, 1989; Rodman, Lewis, & Griffith, 1984).

While Piaget stated that formal-operational reasoning begins in early adolescence, recent studies have found that this stage may not develope until late adolescence (Peterson, 1989; Trad, 1993). Research on adolescent sexual development tends to support this view, as it is thought that unprotected sex and accidental pregnancy are due, in part, to irrational thinking which only considers short-term effects and limited decision-making skills, which are characteristics of the concrete-operational stage (Gruber & Chambers, 1987; Herz & Reis, 1987; Holmbeck et al., 1994; Owens, 1992; Trad, 1993).

2:3 IDENTITY DEVELOPMENT

Another transition which occurs during adolescence is the development of personal identity. According to Erikson, adolescents experience an identity crisis, which is resolved when the individual has a secure sense of self, including an awareness of ones uniqueness, strengths, weaknesses and goals (Musick, 1993; Peterson, 1989; Protinsky, Sporakowski, & Atkins, 1982).

This transition can be a time of great emotional anxiety, as the adolescent is determining his or her individuality by becoming less dependent on parents and increasingly influenced by peers (Baker et al., 1988; Peterson, 1989). This anxiety can be intensified by feelings of loneliness and the perception that others are watching and judging their every move (Neiger & Hopkins, 1988).

Girls generally find this stage more stressful and problematic than boys, as their identity crisis is less easily and less satisfactorally resolved due, in part, to the changing role of women in society (Peterson, 1989). These difficulties in the development of personal identity are thought to play an important role in adolescent pregnancy (Musick, 1993; Trad, 1993). A pregnancy during adolescence may be an unconscious attempt to become independent from the family, to gain unconditional love or to establish a unique identity (Romig & Bakken, 1990; Trad, 1993).

Becoming pregnant during adolescence is a way for a young woman to resolve her identity crisis, "Having a baby means the adolescent no longer need wonder who she

is: she knows - she is a mother" (Musick, 1993, p. 68).

2:4 ASYNCHRONOUS DEVELOPMENT

These fundamental transitions during adolescence are complicated by the fact that they do not occur simultaneously. For example, physical maturation often occurs before an individual has developed the appropriate psychological and social skills to deal with these changes (Miller & Moore, 1990; Schinke, 1984).

Research has shown that physical and biological development stimulate behaviour change regardless of whether or not the adolescent is affected by hormonal changes (Brooks-Gunn & Furstenberg, 1989). This is of particular relevance to young girls, as physically mature girls tend to be more interested in boys and dating (Peterson, 1989), allowed greater freedom from parents and have older friends (Brooks-Gunn & Furstenberg, 1989). These factors are thought to be related to the early onset of sexual intercourse, however the social expectations placed on physically mature adolescents may also influence behaviour (Brooks-Gunn & Furstenberg, 1989).

This mismatch between physical and psychological development can have a profound effect on the individual. An adolescent's body may be ready for a sexual relationship, but he or she may not yet have acquired the appropriate skills to handle this sort of relationship (Peterson, 1989; Weinstein & Rosen, 1991). The development of sexual intimacy is thought to progress in two stages, the transitional stage and the stage of

relational sexual intimacy. During the transitional stage adolescents engage in sexual behaviours for reasons of curiosity, to satisfy sexual urges, as an act of rebellion or because they think that all of their friends are having sex. During this stage adolescents are less likely to use contraception. The stage of relational sexual intimacy is reached when sexual activity is an expression of the meaningfulness of a relationship and is neither exploitative or coercive. This stage is not usually reached by early or middle adolescence, which supports the view that many adolescents may not yet be able to handle a sexual relationship despite their physical maturity (Weinstein & Rosen, 1991).

Physical maturation may also preceed cognitive development during adolescence, because, as previously stated, formal-operational reasoning may not develope until late adolescence and a significant proportion of adolescents become sexually active before this stage (Holmbeck et al., 1994). Therefore many adolescents are entering sexual relationships unequipped with the appropriate decision-making skills and coping strategies (Holmbeck et al., 1994; Owens, 1992).

These adverse effects of asynchronous development during adolescence are intensified by the mixed messages adolescents receive from society regarding how they are expected to behave, particularly regarding sexual behaviour (Haffner, 1993; Schultz, 1986).

2:5 RISK-TAKING BEHAVIOURS

While adjusting to the developmental transitions of adolescence, young people often engage in risky and health-compromising behaviours, such as excessive alcohol use, drug use, smoking and unprotected sex (Plant & Plant, 1992; Trad, 1993). Jessor, in his list of problem behaviours, also includes risky driving, aggressive behaviour and lack of regular exercise or participation in sport (Hurrelmann, 1990). This is a growing area of research, and popular opinion has shifted from the view that risk-taking is deviant and atypical, to the view that it is a normal feature of adolescent development (Baker et al., 1988; Donovan & Jessor, 1985; Hurrelmann, 1990; Trad, 1993). It is now thought that along with the transitions during adolescence comes a natural tendency to experiment and explore the new social environment (Hurrelmann, 1990; Medora, Goldstein, & Von Der Hellen, 1993; Trad, 1993).

As well as being a normal feature of adolescent development, there is also a causal relationship, as risky behaviour is thought to be partly due to these developmental changes, particularly changes to identity and cognitive processes. Engaging in risky behaviour is thought to be a way for adolescents to assert their independence and form their own identity (Burke, 1987; Trad, 1993). They also engage in this behaviour because they lack the cognitive skills to accurately perceive the cost/benefit ratio of risky behaviour (Small, Silverberg, & Kerns, 1993; Yawn & Yawn, 1993). Adolescents rationalize high risk behaviour (Beck & Lockhart, 1992), and see themselves as being infallible (Miller & Moore, 1990; Plant & Plant, 1992). This is particularly true for adolescents engaging in unprotected sex, who often think they are invulnerable to

HIV/AIDS, sexually transmitted diseases, and pregnancy (Owens, 1992; Trad, 1993).

With the recognition of adolescent risk-taking behaviour as normal came the realisation that these behaviours are strongly linked, as they have similar antecedents as well as similar consequences. Traditionally, problem behaviours have been studied separately due to the way research in the United States was funded (Gilchrist, Gillmore, & Lohr, 1990), and because research on adolescence has had a rather narrow focus (Jessor, 1993). However a new emerging paradigm in developmental psychology has meant that research into the stage of adolescence has become more complex and involves multiple disciplines, which has led to a better understanding of the interrelatedness of adolescent problem behaviours (Jessor, 1993).

Risk-taking behaviours, such as excessive alcohol, drug use, smoking and unprotected sex, often co-occur, and engaging in one means an increased vulnerability to others (Allen et al., 1990; Beck & Lockhart, 1992). The Problem Behaviour Theory, (which is discussed in more detail later), was developed as an explanation of the links between problem behaviours. This theory proposes that there is a 'syndrome' of problem behaviour, and that there is one underlying common factor which links all of the problem behaviours. This theory, however, is not conclusive (Beck & Lockhart, 1992; Donovan & Jessor, 1985; Fergusson, Horwood, & Lynskey, 1994).

Studies in this area have consistently supported the notion that problem behaviours are linked. For example, those who drink alcohol or use drugs are more likely to become sexually active at an earlier age (Miller & Moore, 1990; Mott & Haurin, 1988; Rob, Reynolds, & Finlayson, 1990; Swenson, 1992), heavy drinkers during adolescence are

more likely to smoke, use drugs and have unprotected sex (Plant, Bagnall, & Foster, 1990; Plant & Foster, 1991), and a large percentage of a sample of adolescents had consumed alcohol directly before having sex for the first time, with many having unprotected sex (Flanigan & Hitch, 1986). Drug and alcohol use is also correlated with adolescent pregnancy (Gilchrist et al., 1990; Yamaguchi & Kandel, 1987), and with attempted and completed suicide (Adcock, Nagy, & Simpson, 1991; Hawton & Fagg, 1992; Neiger & Hopkins, 1988).

Problem behaviours are also linked by common antecedents and consequences. Common antecedents include school drop-out, low socio-economic status and academic achievement, little parental guidance, peer influence, family conflict, (Gilchrist et al., 1990), less conventional values, lower psychological well-being and being less religious (Yamaguchi & Kandel, 1987). The common consequences of these problem behaviours are the economic cost to the country, (with problem behaviours costing billions of dollars every year in the United States) (Allen et al., 1990), and the tremendous pressure they place on our social institutions (Mott & Haurin, 1988).

The recent finding that problem behaviours during adolescence are interrelated has had major implications for research into, and implementation of, prevention strategies. Prevention strategies should build on the similarities and links between problem behaviours and present an integrated, broad-based approach towards adolescent health rather than focusing on one problem in isolation (Takanishi, 1993; Yawn & Yawn, 1993). Attempts should also be made to understand the social context in which these behaviours occur, including the social and psychological motivation for these health-damaging behaviours (Hurrelmann, 1990).

Research, policies and prevention strategies for adolescents should aim to "...turn a period of great risks into one of great opportunities that represent humane investments in renewing a good society" (Takanishi, 1993, p. 85).

PART THREE

ADOLESCENT PREGNANCY

3:1 A SOCIAL PROBLEM?

The most common conceptualization of adolescent pregnancy in western societies is as a serious 'social problem'. Because there is no single solution to this problem, adolescent pregnancy is also considered a 'multifaceted' social problem (Koniak-Griffin, 1989). Adolescent pregnancy is more problematic than many other problems facing society, in that merely allocating more Government funds to address the issue will not solve the problem, as it is so dependent upon attitudes and social expectations.

A social problem can be defined as "... a condition of society that has negative effects

on a relatively large number of people" (Davis, 1989, p. 19). The negative effects of adolescent pregnancy are particularly far-reaching, as not only are the adolescents themselves, their friends, parents and schools affected, but also the taxpayer.

Adolescent pregnancy has developed in much the same way as other social problems, in that it follows a cycle. This cycle begins with awareness of the issue, which leads to public debate, with the development of official policies being the end result (Davis, 1989).

The development of appropriate policies addressing adolescent pregnancy has been hindered by society's refusal to view adolescent pregnancy as a problem of national proportions, but rather to see it as either a personal problem, or a 'black' problem. This view of adolescent pregnancy allows the societal conditions which contribute to this problem to continue unchallenged (Davis, 1989; Phipps-Yonas, 1980). In order to address this issue, society's changing attitudes regarding sex and pregnancy must be considered, as well as other psychological and social variables (Davis, 1989; Koniak-Griffin, 1989).

Public policy addressing adolescent pregnancy in the United States has been greatly influenced by the political climate of the time (Stafford, 1987). Although adolescent pregnancy rates were high in the 1950's, public policy did not address the issue until the sixties, as it had previously been considered a matter of individual morals rather than one for societal concern. During the sixties the emphasis was on access to abortion and contraception, and, where adolescents were concerned, without parental consent. During the late seventies Federal funding for abortions was prohibited, and the emphasis

was on intervention for pregnant adolescents. The eighties saw a further shift towards conservatism, with abstinence being encouraged (Stafford, 1987). Another conservative view, which emerged during the eighties, was to decrease, or abolish completely, welfare for adolescent mothers, in the hope of discouraging adolescent pregnancy (Davis, 1989).

The New Zealand situation is also tinged with controversy and differing opinions, however policies have consistently supported 'sex education' in some form or other since the idea was introduced in 1949. Reports released in the seventies which advocated sex education in schools with involvement from the community and parents, were met with controversy. The late eighties saw the introduction of 'Tomorrows Schools' which brought with it a change in who was responsible for sex education (Adams & Lungley, 1993).

The nineties brought a major breakthrough for sex education in New Zealand, as the Act which prohibited contraceptive information and advice being given to those under sixteen was repealed (Adams & Lungley, 1993). Since then sexuality education in New Zealand has progressed in leaps and bounds, with the most recent programmes introducing school-based clinics as well as education sessions.

3:2 PREVALENCE

Statistics on adolescent pregnancy must be viewed with caution as it is difficult to obtain consistent data due to the various age ranges used by researchers, and the difficulty in many countries with obtaining reliable abortion statistics (Wong, 1992). Statistics are further complicated by the various terms used, such as conception rates, fertility rates, birth rates, confinement rates and abortion rates, and the differing interpretations of these terms by researchers.

The United States has the highest rate of adolescent pregnancy in the industrialized world (Kirby, 1989; Medora et al., 1993; Rubenstein, Panzarine, & Lanning, 1990). Over one million adolescent girls (aged 15 to 19) in the United States become pregnant each year (Berger, Kyman, Perez, Menendez, Bistritz, & Goon, 1991; Black & DeBlassie, 1985; Drummond & Hansford, 1991; Leigh, Morrison, Trocki, & Temple, 1994; Patten, 1981; Reichelt 1986; Strunin & Hingson, 1992; Whitley & Hern 1991; Yawn & Yawn, 1993), which is one out of every ten girls under the age of twenty (Berger et al., 1991; Black & DeBlassie, 1985; Medora et al., 1993; Stark, 1986), and which represents almost three thousand every day (Kirby, 1989). It is thought that approximately 23.9 percent of sexually active young women have become pregnant at least once by the age of 18 (Gilchrist et al., 1990). Almost half of these result in births, thirty thousand of which are to young women under 15 (Stark, 1986). Recent data shows that approximately half of these adolescent pregnancies result in delivery, forty percent in termination, with the rest ending in stillbirths or miscarriages (Berger et al., 1991; Drummond & Hansford, 1991; McCullough & Scherman, 1991; Strunin &

Hingson, 1992; Trad, 1993; Yawn & Yawn, 1993).

Not only are unplanned adolescent pregnancies a problem in the United States, but unplanned pregnancies of women of all ages are also becoming a significant problem. It has been estimated that out of 6.1 million pregnancies, 1.6 million result in abortion, and 1.3 million of the babies born were unplanned (Forrest, 1987).

New Zealand has the second highest adolescent pregnancy rate in the industrialized world (Department of Health, 1990; Owens, 1992). In 1990, pregnancy rates ranged from 10.46 per thousand 15 year olds, to 86.675 per thousand 19 year olds (Department of Statistics, 1991). This represents a mean of 33 pregnancies per thousand female adolescents, compared with 55 per thousand in the United States, and nine per thousand in Denmark (Maskill, 1991). A Christchurch study found that 15 percent of sexually experienced young women had experienced a pregnancy or were currently pregnant (Brander, 1991).

There are marked cultural differences in adolescent pregnancy rates in New Zealand, with Maori and Pacific Island adolescents conception rates being almost three times that of Pakeha adolescents (Department of Health, 1990).

Pregnancy data is often accompanied by, and compared to data on sexual activity and contraceptive use. Data from the seventies showed that, in the United States, more than twenty percent of first premarital adolescent pregnancies occured within the first month of intercourse (Finkel & Finkel, 1985). Statistics from the late eighties show that most adolescent pregnancies occur during the first three months of sexual activity

(McCullough & Scherman, 1991).

Twelve million of the 27 million adolescents in the United States are sexually active, five million female adolescents and seven million male adolescents (Black & DeBlassie, 1985; Burke, 1987; Schinke, 1984), with the majority becoming sexually active by the age of 16 and with many using no contraception or unreliable methods of contraception (Brooks-Gunn & Furstenberg, 1989; Devine, Long, & Forehand, 1993; Schinke, 1984). One study claims that only 14 percent of female adolescents use contraception the first time they have sex, with most not seeking contraception until they have been sexually active for nine months (Stark, 1986).

A review of the research investigating sexual activity and contraceptive use of New Zealand adolescents concluded that 25 to 70 percent of adolescent females and 40 to 70 percent of adolescent males are estimated to be sexually active, with 33 to 40 percent of first intercourse being unprotected (Lynskey & Fergusson, 1993). A Christchurch study found that 64 percent of adolescent females used contraception at their first sexual experience, which the author acknowledges as being higher than findings of past New Zealand studies (Brander, 1991).

Unprotected sex not only puts young people at risk of pregnancy, but also of contracting sexually transmitted diseases (STD's) and HIV/AIDS. In the United States adolescents are responsible for a quarter of all reported STD's, and twenty percent of HIV cases have been in the 16 to 29 age group (Morrison, Baker, & Gillmore, 1994; Strunin & Hingson, 1992). Those aged between 13 and 19 are now the fastest-growing age group to be diagnosed with AIDS and other STD's (Walton et al., 1991). A

Christchurch study found that twenty percent of sexually active respondents had contracted a sexually transmitted disease (Brander, 1991). There has also been an increase in the incidence of cervical cancer among female adolescents in New Zealand (Department of Health, 1990).

An interesting statistic which has arisen out of research into adolescent pregnancy in the United States is the proportion of pregnant adolescents who have been subjected to various forms of unwanted sexual experiences. The majority of studies examining this link have found that approximately 60 percent of adolescents who became pregnant had encountered these experiences, including rape and molestation (Boyer & Fine, 1992).

These statistics reinforce the notion that adolescent pregnancy is indeed a social problem in New Zealand.

3:3 METHODOLOGICAL PROBLEMS

There are numerous difficulties which arise when researching human sexuality, particularly when the subjects are adolescents (Chilman, 1980). However research into the stage of adolescence experienced a 'growth spurt' during the 1980's, due to improvements in methodology and a better understanding of 'normal' adolescent development (Zaslow & Takanishi, 1993). The methodological problems inherent in research on adolescent sexuality, and adolescent development in general, are now being addressed by researchers, rather than being overlooked as in the past.

When researching a stage of the lifespan there is always difficulty regarding the age range which should be used. This is particularly true for the stage of adolescence, as there is no universal beginning and end point. Although the majority of studies on adolescence use subjects who range from 14 or 15 to 19 years of age (e.g. Flanigan & Hitch, 1986; Gilchrist et al., 1990; Holmbeck et al., 1994; Koniak-Griffin, 1989; Leigh et al., 1994; Reichelt, 1986; Yamaguchi & Kandel, 1987), some studies include those as young as 10 or 11 (Dougherty 1993; Hollingsworth & Felice, 1986), and others go as high as 23 or 24 (Flanigan & Hitch, 1986; Patten, 1981). Comparisons between studies are therefore hindered by the use of various age ranges.

Samples used in research involving adolescents have become more representative, however samples which represent minority adolescents are still lacking (Zaslow & Takanishi, 1993). Unrepresentative samples are a major problem for research into adolescent pregnancy. The reasons for this include the use of specific groups, (such as those attending clinics or those living in residential homes for young mothers), using African-American adolescents only, or using small samples. All of these factors limit the generalizability of the research findings (Robbins, Kaplan, & Martin, 1985; Lineberger, 1987; Morrison, 1989; Phipps-Yonas, 1980; Zaslow & Takanishi, 1993). The representativeness of samples used in research on adolescent pregnancy is also compromised by the sensitive nature of the issue. In many cases parental permission is required before adolescents can participate in a study, which can bias the sample (Chilman, 1980). Samples may also be biased by the fact that participation is usually voluntary, and one could speculate that those who choose to participate are the ones who feel more positive about their sexuality and the pregnancy. Pregnant adolescents are a difficult group to access, therefore most studies use those who present for a

pregnancy test or antenatal care, those attending school, parent education courses, or seeking counselling or terminations. There may be some adolescents who never have a pregnancy test and who receive no antenatal care, and as a result, are never studied.

Research on adolescent pregnancy is also limited by the inconsistency regarding an adequate control group with which to compare results, because subjects cannot be randomly assigned to either a control or experimental group as with other research (Lineberger, 1987; Phipps-Yonas, 1980). Past studies have used a variety of control groups, including nonpregnant adolescents, students still at school, pregnant adults, adolescents attending clinics seeking contraception, adolescent negative pregnancy testers, those choosing to terminate their pregnancy, or norms obtained from the general population (Robbins et al., 1985; Lineberger, 1987; Morrison, 1989; Oz & Fine, 1988; Phipps-Yonas, 1980). It is questionable whether or not these control groups are similar enough to the experimental group for accurate comparisons to be made (Keddie, 1992).

Some studies on adolescent pregnancy have used retrospective data, which is also problematic, as there is no guarantee that past information has been recorded correctly, or that past events can be remembered without being influenced by present issues (Chilman, 1980; Robbins et al., 1985; Lineberger, 1987).

Research on adolescent pregnancy has also been criticised for the lack of attention paid to male adolescents, particularly in studies examining adolescent parenthood (Chilman, 1980; Robbins et al., 1985). However this group are more difficult to access, as the female adolescent usually attends some sort of clinic for a pregnancy test, termination referral, or antenatal care, whereas, from a medical perspective, there is no need for the

male to attend.

Research on adolescent pregnancy is confounded further by the vast amount of research into the factors associated with poor contraceptive use and early sexual activity during adolescence. Research has shown that the tendency to become sexually active during adolescence and/or failure to use contraception are associated with religiosity (Studer & Thornton, 1987), traditional sex-role attitudes, age at first intercourse (Cvetkovich, Grote, Lieberman, & Miller 1978), the double standard regarding sexual activity (Weatherley, 1993), communication with parents, peer relationships, educational aspirations and achievement, lower socioeconomic status (Brooks-Gunn & Furstenberg, 1989), low self esteem (Adler & Hendrick, 1991; Brooks-Gunn & Furstenberg, 1989; Department of Health, 1990; Herold, Goodwin, & Lero, 1979; Holmbeck et al., 1994; Yawn & Yawn, 1993), attitudes towards love and sex (Adler & Hendrick, 1991; Kelly, Smeaton, Byrne, Przybyla, & Fisher, 1987; Stark, 1986), parents behavioural norms (Baker et al., 1988), guilt about becoming sexually active (Gerrard, 1987; Stark, 1986), lack of planning for sexual activity (Flanigan & Hitch, 1986; Stark, 1986), cognitive skills (Gilchrist & Schinke, 1983; Gruber & Chambers, 1987; Holmbeck et al., 1994), where an adolescent lives, ethnic identity (Yawn & Yawn, 1993), assertiveness (Yesmont, 1992), alcohol and drug use (Strunin & Hingson, 1992; Swenson, 1992), family dysfunction (Swenson, 1992), risk-taking attitudes, passivity and dependence (Chilman, 1980), lack of parental supervision due to both parents working (McCullough & Scherman, 1991), and poor access to, and information on contraception (Department of Health, 1990; Wong, 1992).

Because many of these factors overlap with those associated with adolescent pregnancy,

it is tempting to conclude that the reasons for early sexual activity and poor contraceptive use are the same as the antecedents of adolescent pregnancy. However, conclusions about adolescent pregnancy connot be drawn from studies which use only samples of sexually active adolescents rather than a sample of pregnant adolescents. While these studies provide a valuable insight into why adolescents risk pregnancy, they do not explain adolescent pregnancy per se. The problem of adolescent pregnancy is multi-faceted and pregnant adolescents are a unique sample, who's situation can be attributed to more factors than those which are linked to sexual activity or non-use of contraception. For example, a significant proportion of adolescent pregnancies are intended, therefore the factors associated with the desire to become pregnant are different to those associated with risking an unplanned pregnancy.

One author who addresses the issue of intentional adolescent pregnancies, simply states that "If adolescents did not want babies, they would not have them. But they do want them" (Musick, 1993, p. 109). It is thought that adolescent pregnancies are accidental, yet many of these young women have emotional deficits which result in a craving for status, love and fulfillment. They may see these needs being fulfilled if they become pregnant (Zongker, 1977). Some pregnant adolescents state that although they had not consciously decided to have a child, they were happy when they found out they were pregnant (Oz & Fine, 1988). For a number of these young women, their mothers may have modeled this behaviour, or given their daughters subtle messages that becoming pregnant is acceptable (Lineberger, 1987).

As previously mentioned, female adolescents may become pregnant in an attempt to establish a unique identity, or to become independent (Romig & Bakken, 1990; Trad,

1993). An extension of this idea is that adolescents become pregnant as a way of improving their self-esteem and they believe the only role in life which they can succeed at is motherhood (Shtarkshall, 1987). They see a pregnancy as a rite of passage into adulthood, as a way of leaving a traumatic childhood behind them (Oz & Fine, 1988), or as a way of gaining more attention from family and friends (Black & DeBlassie, 1985).

Statistics of intentional adolescent pregnancies are difficult to obtain, as some young women may not want to admit to others, or to themselves, that the pregnancy was intentional. Estimates range from 15 percent of all adolescent pregnancies being intentional, to between 30 and 40 percent (Davis, 1989; Freeman, Rickels, Huggins, & Garcia, 1984; Jorgensen & Alexander, 1983; Trad, 1993).

These intentional pregnancies make research difficult, as those who intended to become pregnant did not become pregnant because they engaged in risky behaviour or lacked decision-making skills. This is a further methodological problem inherent in research into adolescent pregnancy, as different factors are involved in accidental and intentional pregnancy, therefore they should be considered separate issues, and studied accordingly.

3:4 THEORIES OF ADOLESCENT SEXUAL BEHAVIOUR AND PREGNANCY.

There are a number of theories which offer explanations for adolescent pregnancy, as

well as many more general theories of adolescent behaviour which can be applied to adolescent problems such as pregnancy.

One of the most popular of these theories is Problem Behaviour Theory. This theory evolved from findings that adolescent problem behaviours, (such as excessive alcohol, drug use, smoking and unprotected sex), are evident in the normal adolescent population, and that they are interrelated (Beck & Lockhart, 1992; Donovan & Jessor, 1985). Therefore, this theory postulates that some individuals are predisposed to these problem behaviours as there is a 'common underlying vulnerability'. It is thought that some individuals possess this single underlying factor which is a construct labelled 'unconventionality' or 'non-conformity', and which manifests itself in many arenas of an individuals life, including personality, social environment and school performance (Beck & Lockhart, 1992; Donovan & Jessor, 1985; Fergusson et al., 1994; Schilling & McAlister, 1990).

Supporting evidence has been found for this theory (Beck & Lockhart, 1992; Donovan & Jessor, 1985; Gilchrist et al., 1990), however, while it is now well accepted that problem behaviours are positively correlated, some authors have suggested that the association between them could be due to a response to similar causes, or that engaging in one problem behaviour may constitute a risk factor for engaging in another (Yamaguchi & Kandel, 1987).

New Zealand literature in this area cites studies which have found that problem behaviours have different etiological factors, which makes the existence of a common underlying factor of problem behaviour questionable. New Zealand research supports

overseas findings that problem behaviours are gender-specific. Young men tend to engage in antisocial and law breaking behaviours, whereas young women are more prone to alcohol abuse, cannabis use and early sexual activity (Fergusson et al., 1994). These gender differences also challenge the notion of a common underlying factor. Therefore while Problem Behaviour Theory provides a good explanation of the interrelatedness of problem behaviours, it is inconclusive in that it fails to adequately take into account the effects of the behavioural context in which the problem behaviour occurs, and aspects of the individual (Fergusson et al., 1994).

Theories or models offering explanations for why adolescents have unprotected sex include the Health Belief Model and the Theory of Reasoned Action (Plant & Plant, 1992; Strunin & Hingson, 1992).

The Health Belief Model states that some people approach the issue of risk of HIV, STD's and pregnancy rationally, using cost/benefit analysis. They understand their susceptibility, the consequences and how to prevent these things, and make their decisions accordingly (Plant & Plant, 1992; Strunin & Hingson, 1992). Therefore, adolescents choose to engage in unprotected sex because the benefits outweigh the costs.

The Theory of Reasoned Action suggests that preventive behaviour (i.e. safe sex) is also influenced by the desire to please ones friends and partner, and an individual's awareness of partners and friends preferences (Plant & Plant, 1992; Strunin & Hingson, 1992).

General theories of health behaviour during adolescence which can also be applied to

adolescent sexual behaviour include Stage Theory, Peer Cluster Theory, and Ecological theories (Schilling & McAlister, 1990). Stage Theory suggests that health-compromising behaviours, such as drug use, are sequential. This theory is similar to Problem Behaviour Theory in that it supports the existence of an underlying disrespect for conventionality in individuals who engage in problem behaviours such as drug use and excessive alcohol use (Schilling & McAlister, 1990). Peer Cluster Theory postulates that peer variables act to mediate additional variables which are associated with problem behaviours, such as religious, familial and school variables (Schilling & McAlister, 1990).

Ecological theories support the view that the environment shapes behaviour, and that we need to learn how to control our environment. These theories advocate community-based prevention strategies for problem bahaviours (Schilling & McAlister, 1990). This view is similar to the sociological perspective of problem behaviours, which looks at the policies, traditions, norms and mixed messages conveyed by society (Burke, 1987). Theories which focus on society and the environment are based on the links between problem behaviours and environmental variables such as poverty (Stafford, 1987).

Social Exchange Theory and Behavioural Decision-making Theory have both been used to explain how adolescents make decisions, and, when integrated, they suggest various predictions regarding adolescent problem behaviour (Small, Silverberg, & Kerns, 1993). Like many of the theories already discussed, these theories examine the way in which adolescents weigh up the negative and positive consequences of a particular risky behaviour.

It is impossible to conclude that one of these theories adequately explains all aspects of adolescent problem behaviours or adolescent pregnancy, because, when dealing with such a complex issue, the key is integration. One independent school of thought is not satisfactory. Rather an integrated theory is needed which incorporates the major concepts mentioned above. A multidimensional theory of adolescent pregnancy would also have valuable implications for prevention (Stafford, 1987).

PART FOUR

LITERATURE REVIEW

4:1 CONSEQUENCES OF ADOLESCENT PREGNANCY

Adolescent pregnancy is problematic at both the individual and societal level, as it has such widespread social, educational and economic consequences. As Stafford (1987) states, the consequences of adolescent pregnancy "... can be physically, emotionally, and financially devastating both for the individuals involved and for society as a whole" (p. 472).

The negative consequences of adolescent pregnancy are best understood from a lifespan perspective of human development, which postulates that the timing of entry into certain

roles has a significant effect on adult functioning. When an adult role is assumed too early, many of the consequences are negative (Yamaguchi & Kandel, 1987). These consequences of adolescent pregnancy have been well-documented in the literature, and have led to some significant developments in interventions for adolescent mothers.

Social consequences of an adolescent pregnancy include social stigma and emotional conflict, inability to establish a stable family life, a greater chance of repeat pregnancies (Zongker, 1980), marital instability (Robbins et al., 1985), higher divorce rate (Patten, 1981; Rubenstein et al., 1990; Schneider, 1982), increased chance of child abuse (Pond & Kemp, 1992; Stafford, 1987), lower I.Q. in children of adolescent mothers, greater isolation, alienation from family, negative social pressure, severe stress and inhibited identity development (Black & DeBlassie, 1985).

Physical and biological consequences of an adolescent pregnancy include increased chances of infant mortality and morbidity (Baker et al., 1988; Schneider, 1982; Zongker, 1980), poorer mental and physical health of both mother and child, (Robbins et al., 1985), greater risk of mental retardation, epilepsy and blindness in infants (Held, 1981), higher incidence of life-threatening conditions (Black & DeBlassie, 1985), and an increased chance of the baby having a low birth weight or being premature (Baker et al., 1988; Department of Health, 1990; Miller & Moore, 1990; Stafford, 1987).

A recent Australian report on adolescent pregnancy takes an indepth look at claims that the physical and mental health of babies born to adolescent mothers is poorer than that of babies born to older mothers. This relationship is difficult to examine due to confounding variables such as diet, socio-economic status, drug use, social support, and

education of the adolescent (Wong, 1992). However, despite these difficulties, it has been found that it is not the actual age of the mother which leads to an increased risk of health problems, but rather it is the fact that pregnant adolescents present for antenatal care later than older women and receive inadequate antenatal care (Wong, 1992). It is estimated that, in the United States, only twenty percent of pregnant adolescents under 15 receive antenatal care (Davis, 1989).

This problem is being addressed in New Zealand with the development of 'Young Women's Groups' which aim to provide pregnant adolescents with continuity of care, by using the same mid-wife throughout their pregnancy and delivery, as well as providing post-natal care.

Educational consequences of adolescent pregnancy include diminished educational opportunity due to parental responsibility (Rubenstein, Panzarine, & Lanning,1990; Zongker, 1980), increased likelihood of dropping out of school (Baker et al., 1988; Chilman, 1980; Drummond & Hansford, 1991; White & DeBlassie, 1992), lower educational attainment (Patten, 1981), and higher incidence of educational and cognitive deficits in children of adolescent mothers (Baker et al., 1988).

Although many schools in the United States offer programmes which help pregnant adolescents continue their schooling, efforts to help the adolescent once the baby is born are sadly lacking, as this involves not only the education itself, but also transportation and child-care arrangements. Continuing education for adolescent mothers is vital, as education is strongly linked to future use of contraception and avoidance of repeat pregnancies (Held, 1981).

Economic consequences of adolescent pregnancy include welfare dependence, not only of the young mother but also the child, as these children have an increased chance of ending up on welfare (Chilman, 1980; Rubenstein et al., 1990; Zongker, 1980), increased likelihood of living at or below poverty level (Trad, 1993), premature entry into the labour market (Schneider, 1982; Zongker, 1977), less prestigious jobs (Phipps-Yonas,1980), and an income one half of the average income for mothers giving birth in their twenties (Black & DeBlassie,1985). Estimates of the cost of adolescent pregnancy in the United States range from conservative estimates of $15 billion per year, to $47 billion per year (Drummond & Hansford, 1991; Trad 1993).

The consequences of adolescent pregnancy have been well-documented, and have led to significant developments in the area of intervention for adolescent mothers. However New Zealand research in this area is lacking. It would be of particular interest to gain information regarding the cost of adolescent pregnancy to the New Zealand taxpayer, as those in power often react most effectively when a social problem is presented in economic terms.

4:2 ANTECEDENTS OF ADOLESCENT PREGNANCY

In light of the serious and wide-spread consequences of adolescent pregnancy discussed in the previous section, it could be argued that research into the possible causes of this phenomenon is not only essential from the point of view of the young woman and her child's well-being, but also for the economy of our country. Research has succeeded in

identifying possible consequences of adolescent pregnancy, however we know little about the causes, as they are more difficult to assess (Herz & Reis, 1987; Robbins et al., 1985).

Despite the growing amount of research investigating the antecedents of adolescent pregnancy the answer to this problem continues to elude us. As Davis (1989) points out, adolescent pregnancy is "...a problem about which everyone has an opinion, but apparently no one has a solution" (p. 20). In reviewing the literature in this area, it becomes obvious that there is not one answer to this problem, but rather there are a multitude of issues which must be considered when looking at adolescents and their sexual behaviour, including psychological, behavioural and social factors (Herz & Reis, 1987).

The psychological factors which are thought to contribute to adolescent pregnancy include lack of appropriate psychological or emotional maturity, poor communication skills (Stafford, 1987), inadequate mother-daughter relationships (Horn & Rudolph, 1987; Keddie, 1992; Stafford,1987), poor self-esteem (Horn & Rudolph, 1987; Stafford,1987; Zongker, 1977; 1980), the desire to have a baby, emotional needs for affection and physical contact (Kirby, 1989), perceived invulnerability to pregnancy (Miller & Moore, 1990; Phipps-Yonas, 1980), guilt or embarrassment over ones sexual activity (Kelley et al., 1987; Nuthall, 1986; Phipps-Yonas, 1980; Zongker, 1977), idealization of interpersonal relationships (Davis, 1989; Phipps-Yonas, 1980), unwillingness to trust others, difficulty expressing hostility (Phipps-Yonas 1980), the desire for companionship (Black & DeBlassie, 1985), lack of cognitive or problem-solving skills (Jorgensen & Alexander, 1983), and traditional gender role beliefs

(Gordon, 1986; Jorgensen & Alexander, 1983).

Social and situational antecedents of adolescent pregnancy include lack of accurate knowledge regarding contraception and reproductive processes (Stafford, 1987), socio-economic status (Robbins et al., 1985; Stafford, 1987), ethnic identity (Davis, 1989; Gordon, 1986; Robbins et al., 1985), parents values, peer pressure, media messages, the availability of contraception (Kirby, 1989), eligibility for welfare, the fact that it is becoming more acceptable to have a child out of wedlock (Phipps-Yonas, 1980), parental substance abuse, family violence (Oz & Fine, 1988), early onset of sexual activity (McCollough & Scherman, 1991), and coming from a dysfunctional family (Cervera, 1994), particularly one without a father (Keddie, 1992; Patten, 1981).

The major behavioural antecedents of adolescent pregnancy are smoking, drinking alcohol, drug use (Gilchrist et al., 1990; Miller & Moore,1990), and poor school performance (Phipps-Yonas 1980).

When addressing the issue of contributing factors to adolescent pregnancy it is important to distinguish between 'contributing' factors and 'causal' factors. Although research has proven that many of these factors are more evident in samples of pregnant adolescents than non-pregnant adolescents, this does not necessarily imply that the relationship is causal.

Just as the consequences of adolescent pregnancy can be used to improve intervention programmes for adolescent mothers, research identifying the factors which contribute to adolescent pregnancy, and which therefore may play a role in the etiology of

unplanned adolescent pregnancy, can be utilised in the development of prevention programmes.

The following investigation addresses three factors which may contribute to adolescent pregnancy in New Zealand; self esteem, alcohol use, and attachment styles in romantic relationships. The literature on each of these issues is now reviewed in detail.

4:3 SELF ESTEEM

Self esteem is one of the central concepts in psychology, particularly the psychology of adolescence (Domino & Blumberg, 1987). However it is a difficult concept to study due to problems with definition, measurement, and the general nature of self esteem.

4:3:1 THE CONSTRUCT

The definition of self esteem has eluded researchers because it is such a global and multi-dimensional construct (Cate & Sugawara, 1986; Weatherley, 1993), it is an idea rather than an entity (Robson, 1989), it means different things to different people and therefore writers may not be referring to the same thing (Robson, 1988; 1989), and because it is often used interchangeably with terms such as self concept, personal worth or self worth (Campbell, 1984; Cate & Sugawara, 1986; Keddie, 1992; Patten, 1981; Robson, 1988). Therefore, a consensus as to the definition of self esteem has not yet been reached (Robson, 1988). However, a good working definition was that proposed

by Robson (1989), who, after reviewing the work of the major contributors to this area, concluded that self esteem is "The sense of contentment and self acceptance that results from a person's appraisal of his [her] own worth, significance, attractiveness, competence, and ability to satisfy his [her] aspirations" (p. 514).

Self esteem, as a concept, covers a wide domain, and has been associated with power of control, acceptance, analytical thinking, communication skills, perceived popularity, creative ability, conformity and moral worth. Characteristics associated with high self esteem include well-integrated behaviour and cognitive processes (Giblin, Poland, & Ager, 1988). Low self esteem is thought to be a contributing factor in many disorders, such as depression, alcohol and drug abuse, child abuse and adolescent interpersonal problems (Robson, 1988).

4:3:2 MEASUREMENT

Due to the ambiguous nature of self esteem it has proven to be a difficult construct to measure. Instruments measuring self esteem have lacked both validity and reliability, and it is thought that some scales may even measure different constructs or different components of the same construct (Robson,1988; Watkins, Alabaster, & Freemantle, 1988). For example, Weatherley (1993) attributed her insignificant results, in part, to the measure of self esteem used, and she suggests that "...narrower, more situation-specific measures might prove more useful..." (p. 39). Similarly, Zongker (1980) states that the imprecise and global language used in self-concept measures is a weakness which limits the generalizability of his findings.

Uncertainty over the definition and measurement of self esteem has resulted in the existence of a vast number of self esteem and self concept measures. This makes comparisons between studies examining self esteem difficult, as a variety of measures are still in use, ranging from those developed in the 1960's, two of the most well-known being scales by Coopersmith and Rosenberg (Robinson & Shaver, 1973), to more up-to-date measures (Hunter & Stringer, 1993; Robson, 1989). A further inadequacy of self esteem measures is that many of these scales used with adolescents were actually designed for use with younger children, and therefore are not adequately standardised (Hunter & Stringer, 1993).

When self esteem measures are standardised, like most scales and psychometric tests, they tend to be based on the language and cultural 'norms' of the dominant, middle class culture. A New Zealand study has criticised measures of self esteem on this basis, as it claims that self esteem scales do not allow for cultural, developmental or individual differences, and the authors suggest that it may be necessary to develope separate self esteem questionnaires for New Zealand adolescents, which are culturally appropriate (Watkins et al., 1988).

Self esteem measures also tend to "... represent the dominant masculine values of Western cultures..." , and it is thought that high self esteem scores may represent conformity to society's values, which would explain the tendency for men to obtain higher scores on self esteem measures than women (Robson, 1988, p. 6). For example, a study looking at sex role orientation and self esteem found that masculinity was related to high self esteem scores for both male and female adolescents (Cate & Sugawara, 1986).

4:3:3 ADOLESCENTS

Despite the lack of agreement over the definition and measurement of self esteem, it is a construct which is constantly being measured and related to various human behaviours and conditions.

Adolescents, who are often the subjects of self esteem studies, already have lower self esteem levels than the general population (Lineberger, 1987). Research has found that a drop in self esteem is quite common during early adolescence (Musick, 1993; Osborne & Legette, 1982). Female adolescents are more likely to experience feelings of insecurity and psychological distress, such as depression, during early adolescence. Stressful life events, such as poverty, intensify these feelings (Musick, 1993).

Many studies examining self esteem, or self concept, during adolescence have focused on delinquency and juvenile offenders. Lund and Salary (1980) found that the self concept of adjudicated juvenile offenders was lower than, and different to, the provided norms, and therefore, counselling should focus on the negative areas of self-concept. Jones and Swain (1977) measured the self concept of early-adolescent boys attending a junior high school, and found no significant differences in self concept of delinquent prone and non-delinquent prone subjects. However, one could argue that shifts in self-concept may occur later in adolescence, when they have left school, and when the likelihood of subjects being exposed to a deviant sub-culture is greater. This possibility is acknowledged by the authors.

The existence of a link between self esteem and delinquency is consistent with Kaplan's

theory of deviant behaviour, which implies that low self esteem may be a predisposing factor in delinquent behaviour (Leung & Drasgow, 1986). Early, unprotected sexual activity, and adolescent pregnancy are examples of 'deviant' adolescent behaviour which have been related to self esteem.

Herold, Goodwin and Lero (1979) promote the view that the relationship between self esteem and sexual permissiveness depends on whether the social environment at the time is liberal or conservative. They found that high self esteem was associated with an acceptance of premarital intercourse (with affection), lower sex guilt, and a willingness to take the sexual initiative. Similarly, high self esteem is associated with greater knowledge about sexuality and contraception, increased likelihood of using contraception, and more positive attitudes towards contraception (Adler & Hendrick, 1991; Herold et al., 1979; Holmbeck et al., 1994).

A similar link has not been established between actual sexual activity and self esteem, as findings are contradictory. Although one recent study found that sexually inexperienced young women had higher levels of self esteem than those who were sexually experienced (Berger et al., 1991), a subsequent study found no difference in levels of self esteem between those who had had sexual intercourse and those who had not (Robinson & Frank, 1994). A recent New Zealand study also found no significant relationship between self esteem and sexual activity, or contraceptive use (Weatherley, 1993).

4:3:4 ADOLESCENT PREGNANCY

Research regarding the relationship between self esteem and adolescent pregnancy is ambiguous and inconsistent, and therefore somewhat inconclusive (Robinson & Frank, 1994). Many studies have failed to find significant correlations between adolescent pregnancy and self esteem (Berger et al., 1991; Held, 1981; Koniak-Griffin, 1989; Robinson & Frank, 1994; Streetman, 1987).

The studies which found no significant difference in self esteem scores for pregnant and non-pregnant adolescents used a variety of age ranges, self esteem scales and samples. The samples used include comparing positive and negative pregnancy testers (Berger et al., 1991), pregnant adolescents in maternity homes (Koniak-Griffin, 1989), pregnant high school students (Robinson & Frank, 1994), adolescent mothers of at least one child (Streetman, 1987), and adolescents in the final stages of pregnancy attending a Parent Education Programme (Held, 1981). This diversity limits the comparability and generalizability of these studies.

Many of these groups of pregnant adolescents or adolescent mothers had been exposed to some form of parent education, counselling or antenatal care, which may have accounted for their self esteem scores being comparable with adolescent norms (Held, 1981; Koniak-Griffin, 1989; Lineberger, 1987; Streetman, 1987), as some form of intervention is thought to increase self esteem (Patten, 1981). One could also speculate that adolescents who present themselves for these forms of care during their pregnancy are more likely to have a more positive attitude towards their pregnancy, which may be an indicator of a more favourable image of themselves. It has also been suggested

that these self esteem scores may have been influenced by the fact that many of the young women studied were in the late stages of pregnancy, or had already given birth (Robinson & Frank, 1994), as it has been suggested that birth of the baby may lead to a more positive opinion of oneself (Horn & Rudolph, 1987).

Recently published research in this area includes a study by Robinson and Frank (1994), which found no significant difference in self esteem scores of pregnant and non-pregnant adolescents. However this study, which is one of the few to investigate both male and female adolescents, found that male adolescents who had fathered a child had lower self esteem than non-fathers. This finding, if replicated, has important implications for prevention and intervention strategies, which have traditionally focused almost solely on female adolescents.

For every study which did not establish a link between self esteem and adolescent pregnancy, there seems to be at least one opposing study providing evidence in support of a link between these two variables. The studies reviewed in this section also use a variety of age ranges, samples and instruments, with one study's sample including those aged up to 24 (Patten, 1981) and another only including those aged up to 17 (Keddie, 1992).

Reviews of the studies on adolescent pregnancy which were published in the 1970's show that the link between self esteem and adolescent pregnancy was more consistently supported than in more recent studies (Lineberger, 1987; Patten, 1981; Zongker, 1977). One such study is by Zongker (1977), who found that pregnant adolescents had lower self esteem, felt inadequate and unworthy, and expressed more dissatisfaction with their

family relationships and their bodies.

The applicability of past studies such as this to the situation of today is limited. The social climate has changed dramatically since the rather conservative seventies, and attitudes have become more permissive. Therefore, adolescents growing up in the eighties and nineties may not experience the same level of 'sex guilt' and shame, which may infuence self esteem, as was felt by past generations. Other social changes such as the destigmatization of unemployment and an increase in family disturbances may also influence the self esteem of pregnant adolescents (Patten, 1981).

A more recent study by Drummond and Hansford (1991) demonstrated that a sample of pregnant adolescents enrolled in an alternative High School had low levels of self esteem compared with norms and had problems with their 'school self', with some subjects also exhibiting defensiveness. The subjects used in this study were predominately African-American, therefore the Culture Free Self Esteem Inventory was used in the hope of eliminating any possible bias caused by the instruments.

Similar results were obtained by Patten (1981), who found that the self esteem and self concepts of pregnant adolescents were diminished, and by Horn and Rudolph (1987) who found that adolescent mothers had lower levels of self esteem. Keddie (1992) examined the relationship between pregnancy and self esteem in Jamaican adolescents. She discovered not only that those in the 'once-pregnant' group had lower mean self esteem scores than the 'never-pregnant' group, but also that there were differences in self esteem between those living in urban and rural areas.

Studies which compare the self esteem of various sub-groups of pregnant adolescents have also yielded some significant results. Zongker (1980) investigated the self concepts of single and married adolescent mothers. He found that married subjects had low self concepts compared with the norm, and that single subjects had significantly lower self concepts than the married group. Single adolescent mothers were also found to suffer from serious emotional problems and lacked coping skills.

Differences in self esteem between those who choose to continue with the pregnancy and those who choose to terminate is an area of growing interest. It has been found that, when these two groups are compared, childbearers tend to have higher levels of self esteem than those who terminate (Fischman, 1975; Berger et al., 1991). Contrary to these findings, Medora, Goldstein and Von Der Hellen (1993) found that high self esteem was linked to termination rather than childbearing. A further association discovered by this study is the link between sexual abuse and lower levels of self esteem. Research on sexual abuse is growing at an alarming rate, and links with low self esteem and adolescent pregnancy are consistently being found (Boyer & Fine, 1992).

Many studies addressing self esteem and adolescent pregnancy have also looked at family relationships and social support, and have suggested that these variables may be interrelated. Horn and Rudolph's (1987) study of adolescent mothers examined the communication pattern between mothers and adolescent daughters, as well as self concept. Contrary to the literature they reviewed, these authors found that the adolescent mothers had good relationships with their mothers, who did not seem to be overprotective or controlling. However, these subjects expressed a lack of closeness

with their fathers and did not communicate with their parents about sex, reproduction or contraception.

There is also evidence in support of suggestions that pregnant adolescents feel more accepted by peers than by parents (Drummond & Hansford, 1991), that they perceive themselves positively in all roles except their role as a daughter, that they are closer to their mothers (McCullough & Scherman, 1991), and that the absence of a father figure is associated with adolescent pregnancy (Keddie, 1992). These factors relating to adolescent-parent relationships are thought to have an impact on self esteem. Horn and Rudolph (1987) assert that the relationship and communication pattern a female adolescent has with her parents influences the amount of information she receives from them, which is related to the low self concept of many of these young women.

A methodological flaw which has featured prominently in the research reviewed here is the problem of samples of pregnant adolescents being predominately African-American (e.g. Drummond & Hansford, 1991; Horn & Rudolph, 1987; Lineberger, 1987) which limits their generalizability (Zongker, 1980). Although the majority of adolescent pregnancies in America are to African-American women (Held, 1981), these samples present a problem because, not only are there marked cultural differences in attitudes towards adolescent pregnancy, but there are also fundamental differences in the self esteem of different cultures.

In the words of Osborne and Legette (1982), "...ambiguity exists in research related to race differences in self-perceptions" (p. 195). They state that conflicting research has shown that African-American's have lower self concepts, that they have higher self

concepts, and that there are no significant differences in the self concepts of African-Americans and Caucasians. Osborne and Legette's (1982) own research found that African-Americans perceived themselves as being less competent socially and academically.

Similarly, Leung and Drasgow (1986) investigated cultural differences in self esteem. They mention the classic 1947 study by Clark and Clark which found that 'black' children preferred a 'white' doll, and which acted as a catalyst for further research and debate. Leung and Drasgow's (1986) study found similar levels of self esteem for African-Americans and Caucasians, which they suggest could be due to the rise in African-American pride and power. However, hispanic subjects' self esteem scores were somewhat lower.

Cultural differences in attitudes towards adolescent pregnancy include the tendency for African-Americans to be less likely to consider adoption or termination and more accomodating of the notion of an additional family member (Dore & Dumois, 1990; Zongker, 1980). Held (1981) found that African-American adolescents opting to keep their babies had the highest self esteem scores, were more committed to completing their education than were Caucasian subjects, perceived less disapproval within their social network, yet rated the pregnancy the most harshly. On the other hand, Caucasian subjects had lower self esteem scores yet tended to rate the pregnancy highly. These contradictory findings make it difficult to draw any firm conclusions regarding cultural differences and adolescent pregnancy, however it seems that, overall, African-American families are more accepting of adolescent pregnancy (Dore & Dumois, 1990; Zongker, 1980).

The research on self esteem reviewed in this section suggests that a link between adolescent pregnancy and self esteem probably does exist, but research which uses appropriate experimental and control groups is desperately needed.

The existence of a link between self esteem and adolescent pregnancy has led to debate over whether the relationship is causal, and if so, in which direction. In other words, does low self esteem cause adolescent pregnancy, or does pregnancy during adolescence cause low self esteem. Zongker (1980) cites studies which view low self esteem as a predisposing factor in adolescent pregnancy, as well as studies which view it as a consequence, therefore there is support for both options.

In light of the fact that adolescent pregnancy is "...a multifaceted social problem..." (Koniak-Griffin, 1989, p. 23), the most logical view is that self esteem "...may be part of a set of underlying factors, including poor parental relationships, that operate together to increase the risk of teenage pregnancy" (Keddie, 1992, p. 877). These underlying factors are dependent upon society, the individual (Keddie, 1992), and the 'normative context' in which they occur (Miller & Moore, 1990).

4:4 ALCOHOL USE

It is a well-documented fact that adolescence is the stage in which experimentation with alcohol and other drugs usually occurs. Research in this area has focused on the extent of adolescent drinking, the consequences and predictors of adolescent alcohol use, and,

more recently, links with other problem behaviours.

4:4:1 PREVALENCE

Statistics continue to show that alcohol remains the drug of choice for adolescents. Survey results show that 93 percent of American adolescents have tried alcohol at least once by the time they graduate from high school, with the estimated mean age of first use being 12.3 years old. Between 66 and 70 percent are drinking at least once a month, and an estimated five percent drink on a daily or near-daily basis. The prevalence of alcohol use by adolescents is a major social problem, as over four and a half million American adolescents are currently experiencing serious alcohol-related problems (Beck, 1987; Beck & Lockhart, 1992). Almost one third of American adolescents sampled reported that all or most of their friends get drunk at least once a week (Beck & Lockhart, 1992).

Similarly, a British study found that, of a sample of 14 to 16 year old school students, only four percent didn't drink alcohol, with 10.2 percent of female subjects and 9.6 percent of male subjects being classified as 'heavy drinkers' (Plant, Bagnall, & Foster, 1990). A similar study using Scottish students aged between 14 and 16, found that only three percent had never consumed alcohol, with approximately half reporting they had consumed alcohol in the last two weeks (Plant & Foster, 1991).

New Zealand adolescents' alcohol use also follows this pattern. Watson, Wilson and Harding (1986) examined the drinking habits of a sample of New Zealand adolescents in the fourth form. They found that 26 percent of boys, and 32 percent of girls said

they never drank, and 7 percent of girls and 22 percent of boys consumed enough alcohol to put them over the legal limit on most weekends.

Fergusson, Lynskey, and Horwood (1994) found that 72 percent of a sample of 15 year olds had used alcohol in the last year. Six point seven percent of the subjects consumed alcohol on a weekly basis, and 4.9 percent met the criteria for alcohol abuse. Fergusson et al. (1994) state that these results parallel those of other New Zealand studies, which have also found that most adolescents drink moderately and infrequently, with a minority of heavy, frequent drinkers.

4:4:2 CONSEQUENCES

This alarming rate of adolescent drinking has negative consequences for the individual as well as for society. These consequences include a negative effect on health, impaired relationships, involvement in fights, blacking out, getting arrested (Newcomb & Bentler, 1989), as well as a negative impact on adolescent development, particularly psychosocial maturation and identity formation (Newcomb & Bentler, 1988).

Perhaps the most controversial consequence of adolescent alcohol use is the prevalence of drinking and driving within this population. An estimated 14 to 27 percent of adolescents drink and drive at least once every two weeks (Beck & Lockhart, 1992). The reasons for adolescent drinking and driving are not yet completely understood, although it is thought to be related to the notion of a general risk syndrome, as well to the idea that adolescents perceive less risk in impaired driving situations (Beck & Lockhart, 1992).

The consequences of alcohol use should be examined with caution as it is thought that most of these negative consequences are due to alcohol abuse or misuse rather than alcohol use (Newcomb & Bentler, 1989). However, when drinking and driving is considered, even moderate consumption of alcohol can be enough to impair driving.

4:4:3 PREDICTORS

Many of the predictors of alcohol use are similar to the antecedents of adolescent pregnancy. For example, one's family life is considered to be closely linked to alcohol use during adolescence. Kafka and London (1991) looked at overall substance use by adolescents. They found that substance use was lower for those adolescents who could talk openly with at least one of their parents. Similarly, Flewelling and Bauman (1990) found that children from disrupted families are more likely to engage in substance use and sexual intercourse during adolescence.

Cognitive appraisal and coping styles are also associated with alcohol use during adolescence. The findings of Brown and Stetson (1988) suggest that adolescents tend to "...consider a more restricted range of options when attempting to limit or stop their own alcohol consumption as compared with adults" (p. 300). It has also been found that young adults with a deficit in their coping repertoire tend to consume more alcohol than those with more appropriate coping styles (Fromme & Rivet, 1993).

Other predictors of alcohol use, and general substance use include high scores on intelligence tests (Fleming, Kellam, & Brown, 1982), socio-economic status, educational variables, family socialization variables, low self esteem, psychopathological variables

(Newcomb & Bentler, 1989), parents' approval, alcohol use in the home, exposure to alcohol in the media (Casswell, Stewart, Connolly, & Silva, 1991), stressful life events, availability, and the price of alcohol (Plant & Plant, 1992).

However, the most significant single predictor of adolescent alcohol use is friends' alcohol use. Research has consistently shown that an adolescent's alcohol use is best predicted by whether or not his/her peers drink alcohol (Bauman & Fisher, 1986; Flannery, Vazsonyi, Torquati, & Fridrich, 1994; Newcomb & Bentler, 1989).

Another strong predictor of adolescent alcohol use is past delinquent behaviour or past substance use (Fleming et al., 1982; Newcomb & Bentler, 1988; 1989). Research which examines adolescent alcohol use from a developmental perspective supports the idea that risk-taking behaviours are interrelated, as it has been found that alcohol use is linked to other risky behaviours (Plant et al., 1990) and that substance use progresses through developmental stages (Fleming et al., 1982; Mott & Haurin, 1988).

An Australian study found that multiple drug use was relatively common, and that tobacco and alcohol are important 'gateway' drugs for progression to other drugs (Blaze-Temple & Kai Lo, 1992). Similarly, typical progression is thought to begin with coffee, tea and cigarettes, leading to alcohol and marijuana, then to other illicit drugs (Kandel, Kessler, & Margulies, 1978). However, using one of these substances does not automatically mean eventual progression to the next stage, but rather it is likely that use of illicit drugs was preceeded by cigarette smoking and alcohol use (Newcomb & Bentler, 1989).

The statistics provide further evidence that adolescents can progress from alcohol to other drugs, as it has been found that 54 percent of a sample of American high school seniors use marijuana, and forty percent use other illicit drugs (Johnstone, O'Malley, & Bachman, 1986). It has also been found that the percentage of adolescents who use only marijuana has decreased, whereas the percentage of those who have used marijuana, other illicit drugs, alcohol and cigarettes has increased (Clayton & Ritter, 1985).

These findings not only offer further empirical support for the notion that problem behaviours are linked, and that engaging in one increases the likelihood of engaging in another (Plant & Plant, 1992), but it also means that many of the predictors of alcohol use also predict general substance use.

4:4:4 SEXUAL ACTIVITY

The link between alcohol use and unprotected sexual intercourse during adolescence is receiving an increasing amount of attention due to the advent of HIV/AIDS. Before this, although the link between alcohol and unsafe sex had always been associated with the occurence of sexually transmitted diseases and adolescent pregnancy, research into this relationship was seriously lacking (Plant & Plant, 1992). Therefore most of the studies in this area were conducted in the late eighties and early nineties.

Flanigan and Hitch (1986) concluded from the literature in this area, that while adolescent sexual activity and alcohol use are increasing, the use of effective contraception is not. Their own research found that 32 percent of young women who

did not plan to have sex the first time they had intercourse had consumed alcohol at the time. Furthermore, those who did not plan to have intercourse drank more alcohol, had been drinking for a longer period of time, and were less likely to use contraception than those who planned to have intercourse.

Mott and Haurin (1988) found that by age 19 one third of female subjects had engaged in sexual intercourse and used both alcohol and marijuana. They found that adolescents who have used one or more substances by a given age are more likely to engage in sexual intercourse within a year. They acknowledge that while we can establish the order in which adolescents engage in various problem behaviours, this does not imply cause and effect.

A study by Rob, Reynolds and Finlayson (1990) found similar results, as Australian high school students who used marijuana were more than three times as likely to have had heterosexual intercourse, to have consumed alcohol three or more times in the last week, and to smoke cigarettes. Heterosexual sex was also related to drug use in a sample of American college students (Pope, Ionescu-Pioggia, Aizley, & Varma, 1990).

Strunin and Hingson (1992) looked at adolescent alcohol use, drug use and sexual behaviour, and its implications for HIV transmission. They found that 64 percent of the adolescents sampled who were sexually active had sex after drinking, and 15 percent after other drug use, with only 37 percent of sexually active subjects always using condoms. Forty-nine percent were more likely to have sex after they and their partner had been drinking, and 17 percent used condoms less often after drinking. Strunin and Hingson (1992) concluded that HIV prevention should target alcohol and drug use as

well as aiming to increase condom use.

Stall and colleagues (Stall, 1987; Stall, McKusick, Wiley, Coates, & Ostrow, 1986) have also expressed this view, as they assert that an understanding of why people do not comply with safe sex guidelines is necessary for the prevention HIV/AIDS. In studying the sexual behaviour of gay men, it became apparent that drug and alcohol use was closely associated with risky sex. Stall (1987) suggests that prevention strategies should aim to minimize HIV transmission due to drug and alcohol use, rather than focusing solely on condom use.

Plant (1990), who also looked at alcohol use and sexual intercourse from an HIV/AIDS perspective, suggests that alcohol increases the likelihood of risky sex because drinking often occurs in social settings where sexual contacts are sought and where sexual encounters are commonplace, and because of the disinhibiting qualities of alcohol. Plant (1990) also suggests that alcohol use may make one more susceptible to HIV infection because alcohol can impair the immune system. However this is far from conclusive, and Plant (1990) is focusing on adults as opposed to adolescents.

Critchlow-Leigh (1990), who also focused on adults, found that subjects who most strongly believed in the ability of alcohol to decrease nervousness about sex or to enhance sex, were more likely to drink and tended to drink larger amounts.

The findings of these studies which used adult subjects suggest that the link between alcohol use and risky sex is not only a characteristic of adolescents, but also applies to the adult population. Perhaps the risky sexual behaviour of adults is less 'visible' due

to the fact that many adults are in monogomous relationships, which decreases the risk of STD's and HIV/AIDS, and an unplanned pregnancy for adults in stable relationships does not have the widespread negative consequences which a pregnancy during adolescence entails.

Not only does the link between alcohol and sexual intercourse increase the risk of pregnancy, STD's and HIV/AIDS transmission, but this link is also associated with forced sexual activity. Alcohol use increases a woman's vulnerability to sexual assault, and it can increase "...a male propensity for sexual aggression" (Gray, Lesser, Rebach, Hooks, & Bounds, 1988, p. 12)

New Zealand research into a possible link between alcohol use and unprotected sex is scarce. The Christchurch Health and Development Study has investigated the extent of, and links between, problem behaviours in adolescents. This study has found higher rates of sexual activity for subjects who consumed alcohol frequently, reported heavy drinking or alcohol related problems. One of the explanations they offer for this finding is the disinhibiting effects of alcohol (Fergusson, Lynskey, & Horwood, 1994).

4:4:5 ADOLESCENT PREGNANCY

Research addressing the role of alcohol in adolescent pregnancy is lacking, perhaps due to the fact that studies have proven that alcohol use is linked to unprotected sex, and this is considered to be enough evidence to support the conclusion that alcohol use is therefore also linked to adolescent pregnancy. Studies which do address alcohol use and adolescent pregnancy have tended to focus on alcohol use during the pregnancy and the

effects this may have on the foetus, rather than looking at pre-pregnancy alcohol use.

Research into alcohol and drug use by adolescents during pregnancy has produced varied results. Some studies have found that substance use increased during pregnancy, with other studies reporting decreases in substance use during pregnancy (Gilchrist et al., 1990). A recent study which used both self report measures of substance use and urine tests found that pregnant adolescents engage in minimal substance use (Hall, Hengeller, Felice, Reynoso, Williams, & Sheets, 1993).

A New Zealand study which used subjects of varied ages and cultures, found that 41.6 percent of women drank alcohol during pregnancy, and these women tended to be older and to have higher academic qualifications and higher socio-economic status than abstainers (Counsell, Smale, & Geddes, 1994).

Two recent studies which investigated pre-pregnancy alcohol use in adolescents as well as alcohol use during pregnancy found corresponding results. A longitudinal study by Gilchrist et al. (1990) found that pregnant young women reported higher than normal rates of substance use and were more likely to live in drug prevalent environments. Substance use was shown to decrease during pregnancy. A similar study found that 82 percent of a sample of pregnant adolescents used alcohol in the year preceeding pregnancy, with 54 percent continuing to drink in the first trimester of pregnancy. Drinking decreased as the pregnancy progressed, with only 15 percent continuing to drink during the third trimester (Cornelius, Day, Cornelius, Geva, Taylor, & Richardson, 1993).

Based on these findings, one could conclude that the link between adolescent alcohol use and unprotected sex is closely related to adolescent pregnancy. However many of these studies need to be replicated in order to establish these links.

4:5 ATTACHMENT STYLES

4:5:1 BACKGROUND

The pioneers of attachment theory, Bowlby and Ainsworth, examined the way in which infants attach with their primary caregiver. Bowlby's work in the late sixties and seventies looked at the way children become emotionally attached to their primary caregivers, and become distressed when they are separated from them, exhibiting protest, despair and detachment. He viewed this from an evolutionary perspective, by suggesting that the reason for this bond is to ensure the infant remains in close proximity to the adult in times of danger. Therefore, those infants who are more attached to their primary caregiver are more likely to survive (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Simpson, 1990; Simpson, Rholes, & Nelligan, 1992).

Bowlby's theory also proposes that children begin to internalize experiences with their caregiver, which leads to a prototype which they apply to relationships outside the family. These prototypes are known as 'internal working models', and they determine the child's image of others and of the self, which are basically either positive or

negative. These models are instrumental in the development of personality and social behaviour (Bartholomew & Horowitz, 1991; Hammond & Fletcher, 1991; Simpson, 1990).

Ainsworth's study of infants attachment to their primary caregiver in a laboratory setting contributed to attachment theory. She looked at the infants reaction to separation from their caregiver and their reaction when reunited. She discovered three distinct patterns of attachment; secure, anxious/resistant, and avoidant attachment (Bartholomew & Horowitz, 1991). Securely attached infants reacted to separation from their caregiver with less fear, hostility and avoidance than the other two groups, and also displayed more exploratory behaviour (Mikulincer & Nachshon, 1991).

Recent research has built on Bowlby's assertion that attachment processes influence our lives from birth to death, as attachment styles during adulthood are now the focus of many studies, particularly with reference to romantic relationships (Hazan & Shaver, 1987; Simpson et al., 1992). Simpson and colleagues (1992) reviewed the literature on the influence of infant/parent attachment throughout the lifespan. They concluded that the research tends to support the view that attachment styles developed in infancy affect many aspects of our personality and behaviour during childhood, and seem to determine our view of ourselves and others in adulthood.

4:5:2 ROMANTIC RELATIONSHIPS

Hazan and Shaver (1987) were responsible for a contemporary piece of research which aimed to conceptualize romantic love as an attachment process. They assert that the

principle of attachment theory, which postulates that "...the same underlying dynamics, common to all people, can be shaped by social experience to produce different relationship styles" , can be applied to adult romantic relationships (p. 511). Further aspects of attachment theory which can be applied to romantic relationships include the existence of a single conceptual framework by which to explain how both unhealthy and healthy forms of love evolve, a description of the positive and negative emotions which are characteristic of relationships, and an explanation of separation, loss and loneliness.

Hazan and Shaver (1987) found that secure, anxious/ambivalent and avoidant attachment styles are evident in the adult population in similar proportions to the spread of these styles among children, that experiences of romantic love differ according to which of the three attachment styles you possess, and that working models of the self and relationships are related to attachment style. Therefore, these results not only offer a valid explanation for the differences in relationship satisfaction and conflict, but they also support Bowlby's idea of the continuity of attachment styles from childhood to adulthood.

Subsequent research has explored this link between early attachment styles and adult romantic relationships further, resulting in an abundance of significant findings, including successful replications of Hazan and Shaver's (1987) findings. Studies have shown that Hazan and Shaver's measure of attachment styles is in fact correlated with measures of love, that both of these measures predict relationship characteristics (Hendrick & Hendrick, 1989; Levy & Davis, 1988), and that adult attachment styles are related to a wide variety of relationship variables. These variables include attachment history and relationship beliefs (Feeney & Noller, 1990), the classification of desperate

love (Sperling & Berman, 1991), five global personality traits (Shaver & Brennan, 1992), romantic relationships of differing qualities as well as different patterns of emotional experience within these relationships (Simpson, 1990), relationship satisfaction (Hammond & Fletcher, 1991), patterns of self-disclosure (Mikulincer & Nachshon, 1991), support seeking and support giving between dating couples in anxiety-provoking situations (Simpson et al., 1992), and different types of interpersonal problems in adulthood (Horowitz, Rosenberg, & Bartholomew, 1993).

Recent work by Bartholemew (1990), which focuses primarily on avoidance of intimacy, has taken the idea of attachment styles in adult romantic relationships one step further. Bartholemew builds on Hazan and Shaver's (1987) study of love (among others) as well as extending Bowlby's notion of internal working models by dividing it into four classifications. Bartholomew's (1990) adult attachment styles include secure, preoccupied, dismissing and fearful attachment. Each of these four styles is characterized by either a positive or negative view of the self, and a positive or negative view of others.

Securely attached adults have a positive view of the self and of others, and are comfortable with intimacy. Preoccupied adults have a negative view of the self but a positive view of others, and tend to be over dependent. Both of these styles are low in avoidance. The dismissing style is defined by a positive view of the self, yet a negative view of others, and a tendency to deny attachment or emotional needs. Fearful adults have both a negative view of the self and others, are socially avoidant, and see themselves as undeserving of the love of others. These styles are both high in avoidance. In developing this model, Bartholomew (1990) has proposed that this

avoidance of intimacy in adulthood has evolved from early attachment styles and parental rejection.

Bartholomew and Horowitz (1991) tested this model of attachment styles in adulthood. They found that each of the four attachment styles is distinct as well as having its own pattern of interpersonal problems, and that this model also applies to familial relations. Therefore the existence of four attachment styles is supported. Brennan, Shaver and Tobey (1991) compared Bartholomew's four category model with Hazan and Shaver's three category model. They found that these models overlap considerably, with the same two dimensions underlying both of these models.

New Zealand research on attachment styles and adult romantic relationships is scarce. A study by Hammond and Fletcher (1991) established a link between ones attachment style and relationship satisfaction. Another New Zealand study has examined intimacy deficits in sex offenders (Ward, Hudson, & Marshall, in press). Early attachment styles are thought to influence sex offending, through the development of internal working models which lead to insecure attachment and intimacy problems in adult relationships. Ward et al. (in press) have developed a model of attachment style and intimacy deficits in sex offenders which utilizes the three styles of insecure attachment proposed by Bartholomew. This model builds on existing research into sex offending, and offers a sequential explanation of how intimacy deficits, in conjunction with additional factors, may lead to a sexual offence.

The findings of these studies suggest that attachment theory and the psychology of romantic relationships are two schools of thought which can be successfully interrelated.

Research on adult romantic relationships, attachment styles, love and the development of intimacy can be integrated to provide "... the basis for a conceptually coherent and empirically sound developmental theory and taxonomy of intimate bonds" (Sperling & Berman, 1991, p. 45)

4:5:3 ADOLESCENTS

In light of the fact that the relationship between attachment styles and romantic relationships is such a recent discovery, the author is unaware of any available research applying this to romantic relationships during adolescence. In fact, research on adolescent attachment styles in general is sparse. Kobak and Sceery (1988) used the Adult Attachment Interview to examine attachment organization in late adolescence. The results support the notion of working models of attachment, as subjects' affect regulation and representations of self and others differed depending on which attachment style they possessed. Therefore, this study demonstrates that attachment styles influence relationships during adolescence.

Allen, Aber and Leadbeater (1990) suggest that attachment theory offers a model which explains the strong relationship between family characteristics and problem behaviour during adolescence. These authors propose that deviant behaviour during adolescence is caused, in part, by the development of a model of relationships which is characterized by hostility, insecurity and anger. This internal working model of relationships is thought to develope during childhood due to parental rejection, which leads the child to believe that his or her needs are unlikely to be met by others. This working model of relationships is what puts the adolescent at increased risk of engaging in problem

behaviours. This is similar to observations by Khlentzos and Pagliaro (1965) which suggest that adolescent pregnancy is linked to unreliable relationships during childhood, which cause the young woman to seek sexual intimacy as a substitute for parental affection.

Allen, Aber and Leadbeater (1990) also state that prevention of problem behaviours, including adolescent pregnancy, is possible, as Bowlby saw adolescence as a time when models of relationships can be reorganized. They suggest that prevention strategies need to create social environments conducive to the development of models in which adolescents see themselves as autonomous and capable of forming positive relationships.

Aspects of adolescent romantic relationships which have been addressed by recent research include romanticism and traditional gender roles. It has been found that young women who hold traditional gender-based views regarding their relationships with men (i.e. are unassertive and submissive) become sexually active earlier and are less likely to use effective contraception (Jorgensen & Alexander, 1983; Yesmont, 1992). Similarly, young women who romanticize their relationships tend to be more illogical and irrational regarding their relationship (Lester, Doscher, Estrict, & Lee, 1984; Medora et al., 1993), and sentiments of 'love' in adolescent relationships are linked to sexual activity and pregnancy (Davis, 1989; Scott, 1983).

Musick (1993), in her discussion of the role of relationships with men in adolescent pregnancy, inadvertently touches on the principles of attachment theory. She states that, "The adolescent female's sense of self in relation to males is the internal representation of her past experiences with men and- perhaps equally as important- of her mothers

roles and relationships to these and other men" (p. 71). Musick (1993) links the vulnerability of some adolescent females to early sexual activity, sexual victimization and pregnancy to dependency needs which were not met during childhood. This may lead to a perceived lack of control over subsequent relationships and learned helplessness. She states that pregnant adolescents share a common characteristic of emotional deprivation, which began before adolescence.

The present study builds on the ideas represented here, as it suggests that pregnant adolescents are more likely to be insecurely attached. It has been found that more women than men possess the fearful avoidant attachment style (Brennan et al., 1991), and the preoccupied style (Kobak & Sceery, 1988). This corresponds to Musick's (1993) suggestions of dependency needs and vulnerability of female adolescents, as well as being linked to traditional gender role attitudes of subservience and unassertiveness, as the fearful avoidant attachment style is characterized by a negative view of the self and others, as well as feeling undeserving of the love of others.

4:6 LINKS BETWEEN SELF ESTEEM, ALCOHOL USE AND ATTACHMENT STYLES

Not only are self esteem, alcohol use and attachment styles related to adolescent pregnancy, but significant links have been found between these three variables. For example, in Robson's (1988) review of self esteem he cites research which implicates low self esteem as a contributing factor in alcohol abuse. Low self esteem and alcohol

use are also both important antecedents of adolescent suicide (Neiger & Hopkins, 1988). Adolescent suicide is associated with depression, of which low self esteem is one of the best predictors, and it has been estimated that as many as half of all adolescents suffer from bouts of depression at regular intervals (Neiger & Hopkins, 1988; Robson, 1988). Considering that adolescent suicide is directly related to alcohol and drug use, (Neiger & Hopkins, 1988) one could speculate that depressed adolescents will be more inclined to use alcohol and drugs. Therefore, low self esteem may not only be related to alcohol use during adolescence, but this relationship may be causal.

The link between self esteem and attachment styles is receiving increasing attention as research delves further into the association between romantic relationships and attachment styles. Both romantic relationships and attachment styles are dependent on perceptions of ones self and others. Studies using both adult and adolescent subjects have consistently shown that securely attached subjects have higher self esteem or self concepts than insecurely attached subjects (Armsden & Greenberg, 1987; Bartholomew & Horowitz, 1991; Feeney & Noller, 1990; McCormick & Kennedy, 1994). Parallel to this finding is the assertion that low self esteem results in a need for approval, helplessness, dependency, powerlessness and passivity, which are also characteristics of insecure attachment (Robson, 1988).

Few researchers have explored the possibility of a link between alcohol use or abuse and attachment styles. The drinking patterns of parents are thought to influence the development of attachment in their children, as one study found that adult children of alcoholics were more likely to exhibit anxious/ambivalent or avoidant attachment according to Hazan and Shaver's model, and fearful avoidant attachment according to

Bartholomew's model (Brennan et al., 1991). A study looking at the predictors of substance use during adolescence reviewed the literature in this area, which implicates attachment as a possible antecedent. The degree of attachment an adolescent has to the peer community, the adult community and its institutions is thought to influence substance use (Fleming et al., 1982). However, this research is inconclusive.

Research on the links between these variables remains at the preliminary stage, and although some studies have established a relationship, the nature of this relationship is unknown. Some of these links may in fact be causal, which then raises the question of the direction of causality, for example, does low self esteem cause insecure attachment, or vice versa. Future research will no doubt address these issues.

4:7 PREVENTION OF ADOLESCENT PREGNANCY

4:7:1 CLARIFICATION OF TERMS

When discussing the prevention of adolescent pregnancy, or any of the problem behaviours characteristic of adolescence, it is important to first distinguish between the various terms used. 'Intervention' is sometimes used interchangeably with 'prevention'. The primary difference in these two concepts is that prevention aims to reduce the incidence of a problem by targeting those who are at risk but have not yet exhibited the problem behaviour (Hurrelmann, 1990; Repucci, 1987), whereas intervention usually refers to help for individuals who are already exhibiting the problem behaviour.

Intervention strategies for adolescent pregnancy involve providing help and support for adolescent mothers. American society has been criticised for focusing solely on this sort of intervention and therefore taking a reactive rather than a preventative approach (Black & DeBlassie, 1985).

Hurrelmann (1990) uses the term 'preventive intervention', which aims to "... avoid the personal and social conditions which are known to lead to behavioural problems in adolescence" (p. 237). The term 'corrective intervention' refers to strategies which are employed when symptoms of the problem are already apparent.

These terms were developed as an alternative to the more commonly used medical terminology which distinguishes between three different levels of prevention. The 'primary' prevention of adolescent pregnancy aims to delay the onset of sexual activity, 'secondary' prevention aims to increase contraceptive use among sexually active adolescents, and 'tertiary' prevention aims to prevent parenthood, including adoption and abortion (Yawn & Yawn, 1993). As will be demonstrated by the following review of the literature on the prevention of adolescent pregnancy, prevention strategies which focus solely on sexual behaviour are not effective, and therefore this medical terminology needs to be amended.

4:7:2 TRADITIONAL 'SEX' EDUCATION

Traditional approaches to the prevention of adolescent pregnancy have focused either on sex education which merely provides information on contraception, or programmes promoting abstinence, which are the two least politically sensitive approaches in

comparison to more contemporary approaches (Owens, 1992).

Traditional information-based sex education, or 'Family Life Education' as it is also known, was usually integrated into the school curriculum and was designed to increase students' knowledge of contraception. These programmes are thought to be 'value-free' and because they merely provide information they do not take over the role of parents in sexuality education (Owens, 1992). Some American schools have also aimed to improve access to contraception by setting up clinics on the school grounds (Arborelius & Bremberg, 1988; Black & DeBlassie, 1985; Brooks-Gunn & Furstenberg, 1989; Schneider, 1982; Stafford, 1987). Traditional prevention programmes gradually evolved to include values clarification, decision-making skills and communication skills (Barth, Middleton, & Wagman, 1989; Kirby, 1992/93).

These traditional attempts to prevent adolescent pregnancy were based on the premise that "... if youth had greater knowledge about sexual intercourse, pregnancy, methods of birth control, the probability of pregnancy, and the consequences of childbearing, then they would rationally choose to avoid unprotected intercourse" (Kirby, 1992/93, p. 19). However, such programmes usually include the information which adults consider important, (such as anatomy, physiology, menstruation and reproduction), rather than considering what adolescents may want to know. Adolescents, when asked, stated that they want to discuss issues such as love, guilt about sex and sexual enjoyment, which have usually not been covered by these prevention programmes (Arborelius & Bremberg, 1988; Schinke, 1984; Welbourne-Moglia & Moglia, 1989).

These programmes succeed in increasing adolescents' knowledge of contraception and

pregnancy, however this increase in knowledge does not lead to behaviour change. The few traditional sex education programmes which have been adequately evaluated have shown that these programmes do not delay the onset of sexual activity or increase the likelihood of the use of effective contraception, and therefore do not reduce adolescent pregnancy (Arborelius & Bremberg, 1988; Barth et al., 1989; Black & DeBlassie, 1985; Kirby, 1989; 1992/93; Loewenstein & Furstenberg, 1991; Owens, 1992; Stafford, 1987; Welbourne-Moglia & Moglia, 1989). However, programmes which include a school-based clinic are more successful at increasing contraceptive use and decreasing pregnancy rates, therefore demonstrating that access to contraception is a major issue for sexually active adolescents (Brooks-Gunn & Furstenberg, 1989).

Programmes promoting abstinence as the only option have also failed to delay the onset of sexual intercourse among adolescents (Kirby, 1992/93; Owens, 1992). These programmes focus on encouraging adolescents to deter sexual behaviour by developing internal controls, and by resisting external, social factors. The content covers values, improving family communication, consequences of early sexuality, dating, peer relationships and feelings of power (Owens, 1992).

Kantor (1992), who reviewed various abstinence-only programmes, states that these programmes "... rely upon fear and shame to discourage students from engaging in sexual behaviour" (p. 1). The content of these programmes is thought to include medical misinformation and only the negative consequences of sexual behaviour, as well as being sexist, racist, classist, homophobic, and anti-choice. Information about methods of contraception is omitted, as is a consideration of non-traditional families and people with disabilities. Kantor (1992) goes on to assert that some abstinence-based

programmes which do not use scare tactics and focus on skill building have been effective.

4:7:3 A NEW PERSPECTIVE ON PREVENTION: THE IMPACT OF RESEARCH

This failure of traditional prevention strategies and the realization that knowledge does not change behaviour have led to the emergence of a new perspective towards the prevention of adolescent pregnancy. This new perspective is also due to the findings of studies investigating the antecedents and theories of adolescent pregnancy, which have led to the realization that adolescent pregnancy is multi-causal and multi-dimensional. These studies investigating the antecedents and theories of adolescent pregnancy often apply their significant findings to prevention, because if a particular factor is more common among pregnant adolescents than non-pregnant adolescents then it may be beneficial to incorporate that factor into prevention strategies. One such factor is self esteem.

Studies addressing the possible role of self esteem in adolescent pregnancy have suggested, based on their findings, that improving male self esteem must be an aim of prevention strategies (Robinson & Frank, 1994), that self worth can be enhanced by exposing the unreality of television drama and by giving adolescents' experiences with sexuality some meaning (Schultz, 1986), that it is important to ensure that pregnant adolescents' self respect and self concept remain intact while they are being taught more effective coping skills (Drummond & Hansford, 1991), that self esteem could be improved by the development of adequate ego functions and encouragement of positive

aspirations (Patten, 1981), and that self image may be best improved by giving these young women options, therefore giving them control (Shtarkshall, 1987). One author sums up the role of self esteem in prevention by stating that "If high self esteem does serve a protective function, it is important to develop ways to help young people strengthen their sense of personal worth" (Keddie, 1992, p. 888).

Further studies addressing antecedents and theories of adolescent pregnancy have made some suggestions for prevention strategies, including the importance of more male involvement, (including providing young males with contraceptive information) (Holmbeck et al., 1994; Phipps-Yonas, 1980; Robinson & Frank, 1994), emphasizing sexual enhancement and joy as well as safety (Schultz, 1986), and challenging traditional gender role stereotypes to ensure that female adolescents perceive themselves as having control and power over their sexuality and use of contraception (Fine, 1988; Jorgensen & Alexander, 1983). Others have suggested that prevention must begin in early adolescence (Melchert & Burnett, 1990; Phipps-Yonas, 1980), and must be tailored to the developmental level of the students (Holmbeck et al., 1994), should be widely distributed so that it reaches the greatest number of adolescents, (such as through the media, schools, health care providers, youth groups, parents and businesses) (Adcock et al., 1991; Cowan & Mindel, 1993), and should focus on other adolescent problems such as substance use (Adcock et al., 1991; Gilchrist et al., 1990). Prevention strategies, according to these studies, should include behaviour modification (Hollingsworth & Felice, 1986), child development and parenting (Phipps-Yonas, 1980), decision-making skills, assertiveness training, enhancing life options and improved access to contraception (Loewenstein & Furstenberg, 1991), intimacy, communication skills, values clarification, life planning, problem-solving (Melchert & Burnett, 1990)

and what it is like to fall in love (Gordon, 1986).

These suggestions comply with what adolescents themselves said they wanted out of sex education at school. A sample of American adolescents stated that they wanted the curriculum to be expanded to cover related topics, (such as the 'double standard'), the emphasis shifted from the biological aspects of sex to the physical and emotional aspects, the presentation of various viewpoints, classes for parents to help them understand the sexual needs of adolescents and outside lecturers as opposed to regular teachers (Maslach & Kerr, 1983).

4:7:4 BROAD-BASED APPROACH TO RESEARCH

Contemporary sexuality education is based on these suggestions, as it has now been acknowledged that adolescent pregnancy is multi-dimensional and that broad-based prevention strategies are needed which incorporate as many of the fore-mentioned ideas as possible (Melchert & Burnett, 1990; Phipps-Yonas, 1980; Yawn & Yawn, 1993). Traditional 'sex education' has been replaced by the more appropriate term 'sexuality eduation' (Melchert & Burnett, 1990). This realization of the need for a broad-based approach not only applies to adolescent pregnancy. Authors addressing the way in which the stage of adolescence, as well as adolescent health, has been researched in the past have also come to the conclusion that a more integrated broad-based approach is necessary.

A new, emerging paradigm for the study of adolescence, called 'developmental behavioural science' reflects the view that adolescent health requires a broad-based

approach. This new paradigm involves larger and more complex research efforts which involve researchers from multiple disciplines, guided by interdisciplinary conceptual frameworks which are also larger and more complex. Research on adolescent risk behaviour is an excellent example of how this new paradigm works, as this behaviour can not be adequately addressed by a single explanation, but rather it requires multiple interacting domains, ranging from biological to social explanations. This has led to the realization that adolescent risk taking is characterized by a 'web of causation' (Jessor, 1993).

This new paradigm allows adolescent pregnancy to be viewed from a multi-causal perspective, as well as allowing adolescent pregnancy prevention to be broad-based and holistic, involving various disciplines and theoretical ideas. This new paradigm is also related to the recent realization that the conceptualization of human sexuality is broad, as opposed to the traditional conceptualization of sexuality as merely involving reproductive and genital behaviour (Welbourne-Moglia & Moglia, 1989).

Recent policy initiatives and priorities for research on adolescence reflect this new broad-based approach. Zaslow and Takanishi (1993) propose that research into 'normal' adolescent development should be broadened to include a wider section of the adolescent population, that prevention strategies should target clusters of problem behaviours rather than focusing on single ones, and a greater understanding of the various settings in which adolescents participate is needed to further our knowledge of healthy adolescent development.

Policy issues which are being called to the attention of the American Government

include lack of funding for adolescent health (Zaslow & Takanishi, 1993), lack of agreement on how prevention programmes should be implemented, lack of co-ordination between the school, parents and community agencies regarding prevention programmes (Jorgensen & Alexander, 1983), the need for specific health services for adolescents to improve the poor access adolescents have to health care, an office of adolescent health in the United States Executive Branch, the improvement of adolescents' social environments (Dougherty, 1993), an approach which recognizes that adolescent problem behaviours are interrelated, that merely providing information is not enough to ensure healthy development, the importance of community-based programmes, and appropriate training for those working with adolescents (Takanishi, 1993).

4:7:5 CONTEMPORARY SEXUALITY EDUCATION: THE HOLISTIC APPROACH

Many of these new developments have been implemented in contemporary prevention programmes, which now reflect the interdisciplinary and holistic approach. In light of the fact that unsafe sexual activity can be fatal due to the advent of HIV/AIDS, sexuality education programmes have focused less on adolescent pregnancy per se but rather have promoted the notion of sexually healthy adolescents. Sexual health incorporates both HIV/AIDS and sexually transmitted diseases.

Haffner (1990; 1992) has addressed this issue of sexual health, and she proposed that society should accept adolescents as sexual and support the development of their sexual identity. She states that this can be done by developing new cultural norms regarding

adolescent sexuality. Haffner (1992) suggests that a new definition of adolescent sexual health is needed which does not assume sexual health merely because an adolescent has not become pregnant, caused a pregnancy or had a sexually transmitted disease. Rather sexual health refers to ones identity, roles, thoughts, personality, relationships, feelings and behaviour. She proposes that adolescents can develope into sexually healthy adults if sexuality education begins at birth, if the development of a healthy self concept is promoted, if the diversity of values and experiences is acknowledged, if adults are honest with young people about sexuality, if adolescents are prepared for realistic long-term relationships, if adolescents are given hope for their futures, if adults acknowledge their shared responsibility, and if sexuality educators become more political.

Similarly, Hurrelmann (1990) states that adolescent problem behaviours must be targetted by prevention strategies, with the aim of replacing health-damaging behaviours with health-promoting ones. He suggests that previous attempts have failed to take account of the social and psychological factors which motivate adolescents to engage in health-damaging behaviours, therefore the focus should be on health promotion for adolescents as opposed to health education. This holistic approach to sexuality education which focuses on health promotion, particularly sexual health, incorporates personal and social life skills and the social context into prevention programmes, while retaining the features of traditional sex education of providing information and access to contraception (Hurrelmann, 1990). Due to the interdisciplinary and broad-based nature of these contemporary programmes, they apply not only to adolescent pregnancy but also to other adolescent problem behaviours, which, as outlined in preceeding sections of this review, are also multi-causal and interrelated (Hurrelmann, 1990).

The content of contemporary programmes either focuses on general life skills or on broad aspects of sexuality and decision-making regarding sexuality. Unlike traditional sex education programmes, many of the contemporary programmes have been rigorously evaluated, thus allowing authors to develope a set of characteristics common to successful prevention models.

4:7:6 SUCCESSFUL FEATURES OF PREVENTION STRATEGIES

Owens (1992) reviewed the successful prevention programmes as well as those with limited success, the majority of which were designed and implemented in the United States. The successful programmes were similar in that they addressed the entire spectrum of the adolescent's environment, rather than addressing a single aspect of that environment. They also tended to be intensive and long-term, with follow-up and evaluation being built into the programme. Skill-building, problem-solving and decision-making were addressed (including assertiveness skills), and sexuality was seen as a normal part of an adolescent's life, in an attempt to view sexuality as just one of the possible problem areas which an adolescent may encounter.

Additional features of successful programmes include peer involvement in the structure and content of the programmes, the use of discussions, rehearsal and role-playing of appropriate behaviour, trust, security and confidentiality, parental involvement, the involvement of various agencies, education preceeding sexual activity, a health clinic close to or on the school site, and education being integrated with job skills and real-life experiences in order to focus on the underlying causes of problem behaviours (Owens, 1992).

In sum, Owens (1992) states that,

> The result of the intensive multi-component education programmes is to provide the adolescent with a maturer outlook, gained through personal experience and self-relevant education in a non-hostile environment. The programmes identify those aspects of both skill and knowledge that are absent and attempt to assist the adolescent in acquiring them. In essence, they help adolescents to become adults. (p. 74).

Dryfoos (1990), who also reviewed various prevention programmes, came up with a similar list of successful features. She states that a successful programme is characterized by one-on-one individual attention and support, parental involvement, the school site and community-wide multi-agency approaches.

The Australian Federation of Family Planning Associations (1983) includes in their list of successful features of sexuality education programmes the enhancement of self esteem, preparation for adult relationships and parenthood, an understanding of the emotional aspects of sex and love, preparation for responsible decision-making, assisting people to realise the need for equal opportunity for men and women and a tolerance for the wide range of views on sexuality, the realisation that we are sexual beings throughout our lives and the presentation of accurate information.

The American 'Teen Outreach Project' is an example of a prevention programme which incorporates many of these characteristics, has been comprehensively evaluated and was proven to be successful. This project is "...one of the only school-based, non-contraceptive-focused programs to demonstrate reductions in teen pregnancy..." (Allen

et al., 1990, p. 521). Teen Outreach is a voluntary after-school programme, which involves small group discussions on issues ranging from human growth and development to life decisions, with an emphasis on life planning and goal setting. Small groups meet once a week and discuss issues such as values, communication skills, family stress and parenting. Less than ten percent of the curriculum covers sex education. A unique feature of this project is that students are encouraged to perform volunteer work in the community, with the aim of empowering the students. The three year evaluation of this project has shown that it not only reduced adolescent pregnancy, but it also reduced school failure and drop-out rates by approximately thirty to fifty percent. Teen Outreach is now implemented in schools throughout the United States (Allen et al., 1990; Dryfoos, 1990; Owens, 1992).

The success of this broad-based approach to sexuality education, and the recognition that adolescent problem behaviours are linked, has led to the assumption that strategies to prevent adolescent pregnancy can be integrated with the prevention of sexually transmitted diseases, HIV/AIDS, smoking and substance use. This can be achieved by taking a general health and life skills approach as opposed to a sexuality education approach. Programmes aimed at preventing sexually transmitted diseases and/or HIV/AIDS are taking a more integrated approach, which includes changing negative emotions and cognitions, cognitive-behavioural self-management training and sexual assertion training, involving many different agencies (Choi & Coates, 1994; Cowan & Mindel, 1993; Fisher, 1990; Kelly, Lawrence, Hood, & Brasfield, 1989).

Similarly, the prevention of adolescent substance use acknowledges the importance of peer programmes, social life skills, self esteem enhancement, accurate information,

careful evaluation, inclusion in the school health curriculum and early intervention to delay onset (Bagnall & Plant, 1988; Blaze-Temple & Kai Lo, 1992; Newcomb & Bentler, 1989). A Christchurch study (Lynskey & Fergusson, 1993) proposed that, due to the fact that early sexual activity is often accompanied by other adolescent problems such as alcohol and drug use, depression and suicidal behaviours, some form of advice and support is needed for these youths, even if it is not in the form of sexuality education.

The New Zealand situation regarding sexuality education is currently in the process of adopting the broad-based approach used in the United States. Adams and Lungley (1993) conducted a survey of sexuality education policies and programmes in New Zealand secondary schools. This survey was based on a 1992 Department of Health report which stated that a multi-faceted STD and HIV/AIDS prevention pogramme is needed. The findings of this survey include; that respondents wanted more time to be spent on sexuality education, that the goal of sexuality education is that adolescents should have a healthy sex life, teachers were the most likely providers of sexuality education, that staff needed further training and that sexuality education in their schools was inadequate. The sexuality programmes reviewed here gave no indication in their content that they were aiming to enhance self esteem, assertiveness or cognitive skills.

In a paper presented to the Public Health Commission's Advisory Committee on STD's and HIV/AIDS regarding the integration of STD and HIV/AIDS services, Meech (1994) proposes that a broad-based approach be taken to sexual health in New Zealand. He states that services should be free and confidential. Sexual health programmes should be taught in schools, and therefore should be appropriate to young persons. Such

programmes should address self esteem, self assertion, communication skills, relationships and the promotion of safer sex behaviours.

Similarly, in his review of American prevention programmes Owens (1992) states that,

> The idea of broad-based multi-agency approaches that attempt to affect pregnancy rates by tackling the underlying social causes rather than the obvious symptoms, the necessity for wide variety in approaches, and the requirement for systematic and well-planned execution and evaluation with careful reference to relevant research, [are] all applicable to intervention in New Zealand. (p. 11).

Based on the Owens Report (1992), a multi-component, multi-agency approach was piloted in a South Island secondary school in 1993 and 1994. This 'Life Skills' programme was funded by the Public Health Commission and has been comprehensively evaluated. The programme involved a clinic on site, a drop-in centre staffed by peer educators, classroom content taught by teachers, and small group discussions taken by peer educators. Topics covered include diet, career options, relationships, sexuality, alcohol, drugs, smoking and homophobia, with an underlying focus on self esteem and decision-making. Although it is too early to ascertain whether or not this programme has succeeded in reducing adolescent pregnancy, evaluations so far have found that it is meeting the needs of the young people involved. Due to this success, the programme is continuing. This demonstrates that in following American models of success, New Zealand has made a step in the right direction to prevent adolescent pregnancy as well as other adolescent problem behaviours.

4:8 SUMMARY AND CONCLUSIONS

Adolescence, although difficult to define operationally, is characterized by physical, cognitive and emotional (identity) development. Development in each of these areas has an impact on adolescent sexuality and pregnancy; as with physical and biological development comes sexual urges and a tendency to define oneself and others as sexual, cognitive development helps to determine whether an adolescent makes rational or irrational decisions, and identity development may play a causal role in adolescent pregnancy as a pregnancy often helps a young woman resolve her identity crisis.

The uncertainty and confusion caused by these changes is exacerbated by the fact that development in these areas does not occur simultaneously. Physical maturation may occur before an adolescent has developed the necessary psychological skills to deal with these changes. For many adolescents physical maturation preceeds the development of relational sexual intimacy and the formal-operational stage of cognitive development, which means that many adolescents are engaging in sexual activity unequipped with the appropriate psychological or social skills.

Another feature of adolescent development, which is now being recognised as 'normal', is the tendency to engage in risky or health-compromising behaviour. This includes excessive alcohol use, drug use, smoking and unprotected sex. These behaviours are interrelated and have common antecedents, consequences and causal factors. Research, prevention strategies and policies should build on the interrelatedness of these adolescent behaviours.

Adolescent pregnancy has, in the past, been seen as a personal, moral or 'black' problem. However it is now conceptualized as a social problem, and policy-makers are beginning to react accordingly. Adolescent pregnancy constitutes an extremely serious social problem for the United States and New Zealand, who have the highest and second highest rates of adolescent pregnancy in the western world, respectively.

Research into adolescent sexuality, and pregnancy in particular, is confounded by numerous methodological difficulties. These include the various age ranges used, the unrepresentativeness of samples, lack of adequate control groups, and the erroneous assumption that studies addressing early sexual activity and contraceptive use can be generalized to adolescent pregnancy.

Despite these methodological problems, research on adolescent sexuality has yielded many theories of adolescent sexual behaviour and pregnancy. Many of these theories represent common ideas, however one single theory does not adequately address all of the social, psychological and behavioural motivations for adolescent sexual behaviour and/or pregnancy. This leads to the conclusion that an integrated theory is needed, which incorporates the major concepts expressed by the various theories.

The literature on the social, physical, educational and economic consequences of adolescent pregnancy is conclusive and has had important implications for intervention programmes for pregnant adolescents and young mothers. However the literature on the psychological, social and behavioural antecedents of adolescent pregnancy is less conclusive. Despite widespread agreement that certain factors are related to adolescent pregnancy, uncertainty surrounds the issue of whether these factors preceed adolescent

pregnancy or whether they are caused by the pregnancy. If they are found to preceed the pregnancy, is this relationship causal? These questions remain unanswered. Research into these antecedents has been used to guide the development of prevention strategies. New Zealand research into the consequences and antecedents of adolescent pregnancy is seriously lacking, which means that assumptions are made regarding adolescent pregnancy in New Zealand based on overseas research.

Self esteem is an antecedent of adolescent pregnancy which has received considerable attention, despite definitional and measurement problems. Self esteem has been linked to delinquency, knowledge of, and attitudes towards, sexuality, actual sexual behaviour, and adolescent pregnancy. Conclusions regarding the relationship between self esteem and adolescent pregnancy cannot be drawn, as studies have found conflicting evidence. This may be due to the methodological inconsistency of these studies, particularly the use of various control and experimental groups. Tentative conclusions suggest that self esteem is in fact part of a set of underlying factors which act together to cause adolescent pregnancy.

The prevalence of alcohol use and misuse among adolescents in New Zealand and overseas is alarming. The predictors of adolescent alcohol use are similar to the antecedents of adolescent pregnancy, with the strongest predictor being friends alcohol use. The advent of HIV/AIDS has led to increased attention being paid to the link between alcohol use and unprotected sex. Research into this link is conclusive, however research addressing alcohol use and adolescent pregnancy is lacking. The few studies addressing this issue have found that pregnant adolescents were more likely to use alcohol before the pregnancy than non-pregnant adolescents. These findings suggest that

pregnancy prevention strategies should target alcohol use as well as sexual activity.

Research into attachment styles has recently been extended to the area of adult romantic relationships, resulting in the finding that relationships and interpersonal problems differ depending on which attachment style you possess. Research into adolescent attachment styles and romantic relationships during adolescence are limited. What research there is suggests that attachment styles influence relationships during adolescence, and that the notion of dependency in relationships may play a role in adolescent pregnancy. The present study investigates this further.

The prevention of adolescent pregnancy has progressed from traditional information-based or abstinence-only programmes to the recognition of a need for broad-based approaches. This recognition resulted from studies identifying the vast number of antecedents of adolescent pregnancy, the realization that knowledge does not change behaviour, and the move towards an interdisciplinary and multi-dimensional approach to research and policies regarding adolescence.

A major component of contemporary prevention strategies is comprehensive evaluation, which has led to the identification of the successful features of prevention programmes. Innovative programmes are now being implemented based on these successful features. Although New Zealand programmes are largely based on overseas models of success, they tend to be meeting the needs of New Zealand adolescents.

PART FIVE

RATIONALE AND AIMS OF THE PRESENT STUDY

The aim of the present study is to explore the factors associated with adolescent pregnancy in New Zealand. Self esteem, alcohol use and attachment styles were investigated, with the aim of broadening the scope of research into adolescent pregnancy in New Zealand. Research in these areas is scarce. What little New Zealand research there is tends to address unprotected intercourse, early sexual activity, or adolescent problem behaviours in general rather than focusing specifically on adolescent pregnancy. Despite the recent recognition that problem behaviours are linked, research on adolescent pregnancy in New Zealand is still at the preliminary stage, and therefore comprehensive research which focuses solely on adolescent pregnancy is needed before including other problem behaviours. The present study aims to do just that.

Overseas studies on adolescent pregnancy have tended to focus on one antecedent, rather than incorporating two or three. However, the present study aims to gather information on three antecedents; self esteem, alcohol use and attachment styles. The rationale for this is based on the fact that New Zealand research in this area is limited and this sample group is difficult to access, therefore if young pregnant women are willing to participate, the researcher should aim to get as much information as possible. By investigating three antecedents of adolescent pregnancy the present study is also lending support to the notion that adolescent pregnancy is multi-causal and multi-dimensional.

There is no doubt that research on adolescent pregnancy in New Zealand is both warranted and necessary. The negative consequences of adolescent pregnancy include personal, familial and social problems for the adolescents involved, and, for those who choose to continue the pregnancy, the baby's health and future prospects are negatively affected. These negative consequences alone warrant further research on this issue, however the economic impact on the country provides additional support for research on adolescent pregnancy. Adolescent pregnancy costs the United States at least 15 billion dollars a year (Drummond & Hansford, 1991; Trad, 1993). Therefore, although specific figures are not available, with New Zealand having the second highest rate of adolescent pregnancy in the western world, this social problem must be costing taxpayers millions of dollars every year. The findings of research efforts like the present study may, indirectly, save the country millions of dollars.

Other adolescent problem behaviours, such as excessive alcohol use, drug use and smoking, also cost society millions of dollars, as well as possibly costing adolescents

their freedom, an education, a career, their health and perhaps even their life. Rates of mental illness and suicide are high among the adolescent population, with access to health care often being limited (Adcock et al., 1991; Allen et al., 1990; Dougherty, 1993; Takanishi, 1993). Research on adolescent pregnancy may also shed light on the variables associated with these additional problem behaviours and therefore may aid the development of appropriate prevention strategies. The present study is of particular relevance to these other problem behaviours, as it addresses alcohol use as well as adolescent pregnancy.

The advent of the AIDS virus was also part of the rationale for the present study, as it has been for many studies on adolescent sexual behaviour. Although the present study does not address unprotected sex per se, by investigating adolescent pregnancy an insight into unprotected sex is inadvertently gained. The AIDS virus adds a sense of urgency to research on adolescent sexual behaviour, as unprotected sex can now be fatal. Although numbers are still relatively small, the fastest growing group of the New Zealand population infected with HIV is women infected heterosexually (AIDS New Zealand, 1994). In light of this finding, studies which explore possible reasons why New Zealand women are continuing to have unprotected sex are desperately needed. The present study, by investigating adolescent pregnancy can shed some light on this issue.

Self esteem was chosen because the overseas research is inconclusive and because, based on my own experience as a sexuality educator, I believe that low self esteem is a major issue for New Zealand's female adolescents, particularly regarding sexuality and relationship issues.

Alcohol use is investigated here because of the alarming rate of adolescent alcohol use in New Zealand, and because overseas data has shown a clear link between alcohol use, unprotected sex and, somewhat less clearly, with adolescent pregnancy.

Attachment styles are addressed by the present study because if adult romantic relationships are influenced by attachment styles, then there is a strong possibility that adolescent romantic relationships are similarly affected. New Zealand research has already shown that intimacy deficits in sex offenders can be categorised according to attachment styles, therefore perhaps a similar explanation exists for the romantic relationships of adolescents who become pregnant.

The rationale behind the present study was also to eliminate some of the methodological problems which have limited the generalizability and utility of past studies. The present study uses the most common age range used by recent studies on adolescent pregnancy, 14 to 19 years, in order to ensure the comparability of this research with similar studies. Subjects are also gathered from a variety of agencies, therefore attempting to eliminate the problem faced by many studies of a limited and bias sample. The control group is made up of high school students similar in age to the pregnant subjects, which is considered more appropriate than either not using a control group or using pregnant adults. The present study acknowledges the need for research on male adolescents regarding adolescent pregnancy, however this is beyond the scope of this investigation.

An additional reason why the present study is considered warranted and necessary is the implications which these findings may have for New Zealand prevention strategies. Prevention strategies in New Zealand have been based on the findings of overseas studies, primarily successful American prevention programmes. Although this is

considered appropriate (Owens, 1992), it is somewhat inadequate. New Zealand adolescents are unique, and deserve to have some control over the way their problems are addressed. Surveying New Zealand adolescents is the only way to ascertain why New Zealand adolescents continue to become pregnant and, as a result, which prevention strategies are going to be successful.

A final, and perhaps slightly ambitious, aim was that the present investigation acts as a catalyst for subsequent research in this area.

The specific questions addressed by this exploratory study are:

1. Do pregnant adolescents have lower levels of self esteem than non-pregnant sexually active and/or non-sexually active adolescents?

2. Are pregnant adolescents more likely to use alcohol than non-pregnant sexually active and/or non-sexually active adolescents?

3. Are pregnant adolescents more likely to be insecurely attached in their romantic relationships than non-pregnant sexually active and/or non-sexually active adolescents?

4. Is there any relationship between these three variables for either pregnant or non-pregnant sexually active and/or non-sexually active adolescents?

CHAPTER TWO

METHOD

1. SUBJECTS

Participants in the experimental group were recruited from various Christchurch agencies who have contact with pregnant adolescents. Agencies approached include the Christchurch Family Planning Clinic, Lyndhurst Hospital, the New Regent Medical Centre, Christchurch Women's Hospital Social Work Department, Burwood Hospital Midwifery Department, Pregnancy Help Incorporated, the University of Canterbury Student Health Service, and Holly House Residential Facility for Young Mothers.

Both the Burwood Hospital Midwifery Department and the New Regent Medical Centre chose not to participate. A doctor from the Q.E.II Medical Centre heard about the study and offered to participate, resulting in seven agencies participating in the study.

Participants for the control group were recruited from a Christchurch High School, which was chosen because it is a small-sized, co-educational secondary school, whose students represent a wide range of cultures and socioeconomic backgrounds.

2. QUESTIONNAIRE CONSTRUCTION

The self-report questionnaire administered to subjects (Appendix A) aimed to answer the questions formulated in Chapter One by measuring subjects' self esteem, alcohol use and attachment style, as well as gathering basic demographic information. Therefore

both the experimental and control group were required to complete four distinct questionnaires, two of which were developed by overseas researchers, one was developed by the present researcher based on questionnaires used in similar research, with the demographic questions being developed by the present experimenter specifically for this research.

2:1 QUESTIONNAIRE 1: DEMOGRAPHIC DATA

The aim of Questionnaire 1 was to gather personal data on the subjects. The questions covered age, ethnic identity, family situation, and sexual history. The sexual history included whether or not subjects have had sexual intercourse (for the benefit of the non-pregnant subjects), age of first intercourse, contraceptive practices and pregnancy status. These characteristics are important as overseas research has linked adolescent pregnancy to, among other things, age of first intercourse, ethnicity, use of contraception, parents marital status, educational attainment, and socioeconomic status (Keddie, 1992; Kirby, 1989; McCollough & Scherman, 1991; Phipps-Yonas, 1980; Robbins et al., 1985). Therefore, although they are not the primary focus of the present investigation, these demographic variables give an insight into the lives of these young women, as well as enabling the researcher to ascertain whether any major differences exist between pregnant, non-pregnant sexually active and non-sexually active adolescents.

In light of the growing amount of research establishing a link between sexual abuse and adolescent pregnancy (Boyer & Fine, 1992), subjects were also asked if they have ever

been forced to have sex with someone. More specific questions regarding sexual abuse were not asked because the experimenter did not wish to distress the subjects, and also because this link is not one of the main research questions being investigated here.

Most of the 11 items in questionnaire 1 involved circling a number, as each response option was given a numerical equivalent. Some questions also required an additional one word answer to clarify or describe their response choice for that particular item, which was usually in the form of 'please specify _____'. None of the items were open-ended.

2:2 QUESTIONNARE 2: SELF ESTEEM

The available self esteem and self concept scales were reviewed, focusing primarily on those designed for use with adolescents or older children. The scale used for this investigation had to be reasonably easy to understand (due to the fact that some of the pregnant subjects may have left school at an early age), with language which young people are familiar with, and which is not too long. Two of the more widely used scales, the Self Esteem Inventory by Coopersmith (1967) and the Self Esteem Scale by Rosenberg (1965), were discarded, as, in this author's opinion, they are now out of date, and the items are not worded with the same sensitivity as more recent scales. Rosenberg's scale is too short, as it has only ten items, and Coopersmith's fifty item scale was considered too long for the present investigation (Robinson & Shaver, 1973).

A list of six possible scales for use in the present study was then developed and circulated among Family Planning Association Educators who work with adolescents. This list included MacKinnon's Self Esteem Scale (Herold, Goodwin, & Lero, 1979), The State Self Esteem Scale, The Self Esteem Questionnaire (Domino & Blumberg, 1987), a new self esteem measure developed by Robson (1989), "Who Am I?" Responses as a measure of self esteem and Kaplan's Self Esteem Scale (Leung & Drasgow, 1986). Family Planning Educators and the experimenter agreed unanimously that Robson's self esteem scale was the most appropriate measure of self esteem for the present investigation.

Before developing his self esteem measure, Robson (1988; 1989) conducted a comprehensive review of the literature on self esteem, from a psychiatric perspective. He tackled the issues of definition, cultural influences, measurement, the characteristics of self esteem, and the relationship of self esteem to various social or personal conditions. Robson (1988; 1989) concluded that self esteem is an idea rather than an entity, and is highly subjective. This became the basic premise behind his self esteem scale. He asserts that,

> To be useful in clinical research, a scale for measuring self esteem must be easily comprehensible to patients and quick to complete, and demonstrate satisfactory psychometric properties without sacrificing intuitive breadth of meaning. No existing scale fulfils these requirements. (Robson, 1989, p. 513).

Robson's (1989) self-report questionnaire attempts to fulfil these requirements. The questionnaire was based on items from scales devised by Coopersmith (1967) and Rogers and Dymond (1954). Robson (1989), through consultation with a team of

psychiatrists and psychologists, developed a 30 item scale representing seven distinct components of self esteem. The components were significance, worthiness, appearance/social acceptability, resilience and determination, competence, control over personal destiny and value of existence. Robson's (1989) preliminary investigations of the scale's reliability and validity are encouraging, and are comparable with other self esteem measures (reliability coefficient of 0.91, and convergent validity of 0.804).

The questionnaire was scored using a Likert scale, with a numerical range of 0 to 7 for each item, including four anchor points ranging from 'completely disagree' to 'completely agree'. This scale is particularly appropriate for the present investigation on adolescent pregnancy because it generates one overall score for each subject so it is relatively easy to code, (with the maximum possible score for 'global' self esteem being 210), it is quick to complete, and it avoids using double barrelled statements to ensure that the scale is comprehensible to adolescents (Robson, 1989).

2:3 QUESTIONNAIRE 3: ALCOHOL USE

The aim of the alcohol use questionnaire in the present investigation was to ascertain the extent of alcohol use among the subjects, in order to compare the pregnant, non-pregnant sexually active and non-sexually active subjects. The experimenter reviewed various alcohol use and alcohol abuse questionnaires which are used with adolescents and/or adults, including a questionnaire used in a national survey of New Zealand school students (Routledge & Taylor, 1981), and questions asked in a recent

Christchurch study of adolescent alcohol use (Fergusson, Lynskey, & Horwood, 1994). The five questions regarding alcohol use developed for use in the present study were adapted from items asked in 'The "AUDIT" Questionnaire' used by the Psychological Services Department of the New Zealand Justice Department and a questionnaire used in a New Zealand study of adolescent drinking patterns (Hawker, 1978).

The five items in Questionnaire 3 cover whether subjects have ever tried alcohol, how often they drink alcohol, what they usually drink, how much they usually drink, and the effects of their alcohol use. As in Questionnaire 1, each response option was given a numerical equivalent, therefore subjects merely had to circle the number beside the answer which best described their situation. Item three, which asked subjects to specify what alcohol they usually drink, included an option 'other, please specify _____'.

Coding this questionnaire was relatively simple, as adding up subjects' numerical response choices for three of the five items yielded an overall alcohol use score. A high score indicates higher alcohol use, with the highest possible score being 36. A score of this magnitiude would represent a subject who drinks every day, who usually has ten or more drinks in a drinking episode, and who frequently gets drunk, looses her memory and passes out due to alcohol. Therefore most scores were expected to be considerably lower than 36.

2:4 QUESTIONNAIRE 4: ATTACHMENT STYLES

In light of the fact that the measurement of adult attachment styles in close relationships is a recent phenomenon, appropriate scales are scarce. The few existing scales which measure attachment styles in romantic relationships were designed for use with adults rather than adolescents. There are numerous scales which measure aspects of interpersonal relationships, such as the Inventory of Interpersonal Problems (Bartholomew & Horowitz, 1991; Horowitz, Rosenberg, & Bartholomew, 1993), and the Love Attitudes Scale (Hendrick & Hendrick, 1986). However, although these scales offer a valuable insight into relationships, they do not specifically address attachment styles.

The 'Relationship Questionnaire' is the scale used in the present research, which was designed to measure attachment styles in adult romantic relationships. This scale was based on measures used in Hazan and Shaver's (1987) research which investigated love-experience and attachment styles in adult romantic relationships. However, Hazan and Shaver's (1987) measures were based on Ainsworth and Bowlby's theories of attachment styles, which specified three attachment styles, (secure, anxious/ambivalent and avoidant), which has now been expanded to four categories by Bartholomew (1990). Therefore, Bartholomew and Horowitz (1991) modified Hazan and Shaver's (1987) measure so that it incorporates four attachment styles, (secure, preoccupied, dismissive avoidant and fearful avoidant) which is now known as the 'Relationship Questionnaire'.

The 'Relationship Questionnaire' was chosen for use in the present investigation because it measures the specific concept the present study aims to measure, and because it has been successfully used in a study of sex offenders in New Zealand (Ward, Hudson, & Marshall, in press). Although it would be more appropriate to use a measure of adolescent attachment styles in romantic relationships, no such scale was found.

The 'Relationship Questionnaire' is made up of three sections. The first section asks subjects to circle the number beside the paragraph which most adequately describes the way they are in their romantic relationships. Each of the four paragraphs represents one of the four attachment styles. The second section then asks subjects to rate each of the four paragraphs according to the extent to which it applies to their romantic relationship style. Subjects are required to rank each style on a seven point Likert scale with anchor points of 'not at all like me', 'somewhat like me' and 'very much like me'. Section three asks subjects to consider their past and present romantic relationships, and respond to a list of thirty statements. This section is scored using a five point Likert scale, using the same anchor points as in section two. In each section, subjects are asked, if they have not had a romantic relationship, to imagine how they would be likely to feel in one. The only modification made to the 'Relationship Questionnaire' for use in the present investigation was to the term 'adult romantic relationship', as the word 'adult' was deleted.

The 'Relationship Questionnaire' was coded by establishing the pattern of responses for each subject on each of the three sections of the questionnaire. The first section yielded a single answer, (either A, B, C, or D), representing one of the four attachment styles. Similarly, the second section resulted in a score between one and seven for each of the

four styles. The third section was coded using a computer programme designed specifically for coding this questionnaire. This yielded a score for each of the four attachment styles based on subjects' responses to the thirty items. Two independent raters then examined each subject's scores for each of the three sections, and decided which of the four attachment styles they most consistently displayed. This coding was considered successful, with inter-rater reliability of 93.75 percent.

3. RESEARCH PROCEDURE

3:1 RECRUITMENT OF AGENCIES

On gaining approval from the University of Canterbury Human Ethics Committee, the agencies dealing with pregnant adolescents, (with the exception of the Family Planning Clinic), were sent a letter outlining the investigation, their involvement should they choose to participate, and confirmation that the investigation had been approved by the University of Canterbury Human Ethics Committee (Appendix B).

Included with this letter was a copy of the research proposal, information sheet (Appendix C) and the Questionnaire. All of these letters were followed up with a phone call a week later, giving representatives from each agency the opportunity to ask questions, and to state their decision regarding participation in the study.

Copies of the information sheet, questionnaire, and stamped envelopes addressed to the experimenter were either posted or delivered to each agency, with the exception of the Christchurch Women's Hospital Social Work Department. Instructions on administration of the questionnaire were given in the original letter sent to each agency, and were repeated and clarified over the telephone.

The Christchurch Women's Hospital Social Work Department requested that the experimenter present the research in person at the 'Young Women's Group', as it was thought that their clients, adolescent expectant mothers, would be more likely to agree to participate if they were asked personally. Therefore the experimenter attended a meeting of the 'Young Women's Group', giving a brief outline of the research and distributing the information sheets, questionnaires and stamped, addressed envelopes. Numerous copies of the information sheet, questionnaire and stamped, addressed envelopes were left with the social workers to distribute to new clients at subsequent meetings.

A slightly different procedure was required when recruiting the Family Planning Clinic, as it has such a large staff and client base. The Medical Director of the Christchurch Family Planning Clinic, Doctor Sue Bagshaw, was initially approached by the experimenter in person, and was provided with a copy of the proposal, information sheet and questionnaire. On agreeing to participate, she pointed out the difficulty of informing all of the doctors and nurses who work at the clinic, many of whom are part-time. Therefore, the experimenter attended a clinic meeting and presented the research to the nurses and doctors, who were given the opportunity to ask questions. A folder was then placed in each clinic room, containing information sheets, questionnaires and

stamped, addressed envelopes. The experimenter also made regular visits to the Family Planning Clinic's staff room, to give staff an informal reminder about the study.

Although letters were not sent to any General Practitioners, a doctor from the Q.E. II Medical Centre heard about the study and volunteered to participate. The experimenter met with her to explain the research and how to administer the questionnaire, and gave her copies of the information sheet, questionnaire and stamped, addressed envelopes. Therefore, seven agencies agreed to participate in the present investigation, six of which were approached by the experimenter, either through a letter or a meeting, and one of which volunteered without first being approached. In total, approximately one hundred questionnaires were distributed to the seven agencies. The amount which each agency was provided with was determined by the staff at each agency, and was based on approximately how many pregnant adolescents they have contact with. Each agency participated for a period of at least 4 months. Fourteen completed questionnaires were returned to the experimenter.

3:2 ADMINISTRATION OF THE QUESTIONNAIRE

The procedure for administration of the questionnaire was to be as similar as possible for each of the seven agencies. Participating agencies were asked to mention the study to clients between the age of 14 and 19 who were either pregnant or had recently given birth. The young woman's decision regarding the pregnancy was immaterial. The young women were to be informed that participation is completely voluntary, anonymous and

confidential. The agencies distributing the questionnaires were reminded, both in the original letter and on the telephone, that they are to use their best judgement and if a young woman is too distressed about her pregnancy then it is inappropriate to mention the study.

If a young woman showed some interest in participating she was given an information sheet, which contains further details of the study. This included the statement that if they feel distressed after completing the questionnaire they may speak to a staff member who could refer them to the appropriate agencies. Most of the participating agencies had their own counsellors or social workers, however this statement was included in case a subject presented with some issues which required specialised counselling.

If, after reading the information sheet, the young woman agreed to participate she was given a questionnaire, and was instructed that the research is interested in their behaviour and feelings before they became pregnant, so they may be required to think back a few weeks, or months for those young women who are further on in their pregnancy. This is particularly important for the alcohol questionnaire, as alcohol use may have decreased substantially due to the pregnancy. Subjects' had three options for completing the questionnaire; they could complete the questionnaire while at the agency and hand it in, they could take it home to complete it and return it on their next visit, or they could complete it at home and post it back to the experimenter in the stamped, addressed envelope provided. Most of the subjects chose to post the questionnaire directly to the experimenter.

The Family Planning Clinic was provided with a 'postbox' for subjects to place their

completed questionnaires in, to avoid subjects having to hand their questionnaires to reception staff. This was situated in the reception area. For the remaining six agencies, the questionnaires which were not posted directly to the experimenter by the subject herself, were collected by one of the staff members and posted back to the experimenter in the stamped addressed envelope provided.

3:3 THE CONTROL GROUP

The control group was recruited after the data from the experimental group was collected. It was done in this order to get an idea of the general trend regarding the ages of the experimental subjects. It was found that subjects in the experimental group tended to be at the older end of the age range, with no subjects being 14 years of age. Therefore, a sample of fourth form subjects was not required for the control group, and 20 questionnaires were distributed to both six and seventh formers, with only 10 being distributed to fifth formers, in order to obtain an older sample.

When approval from the University of Canterbury Human Ethics Committee was granted, the Health Co-ordinator from the chosen High School was contacted, and was provided with the research proposal, information sheet, questionnaire and parental consent form (Appendix D). Considering the fact that details of the students' sexual activity would be released, it was agreed that the name of the High School would not be used. The Health Co-ordinator consented to the use of female students for the control group.

When the data from the experimental group had been collected, the experimenter met once again with the Health Co-ordinator, as well as with the Principal, to finalize the details of how the questionnaire was to be administered. The experimenter then met with various form teachers and form Deans to organise times when the questionnaire could be administered. On the request of the school, students were told that the questionnaire asked about sexual activity, and if they did not think their parents would like them to participate then perhaps they should not.

Sixth and seventh form students were told about the study by their form teachers during form time. All female students were given a copy of the information sheet, and those who volunteered to participate were given a copy of the questionnaire. It was explained to the male students that the experimenter acknowledges the need for males to also be investigated regarding adolescent pregnancy, but that is beyond the scope of this study. Participants were told to either hand the completed questionnaire to their form teacher the following day, or to put it in the box provided in the school 'drop-in centre' the following lunch-time.

The procedure for the fifth formers was slightly different, as permission slips had to be completed by parents or caregivers for those under the age of 16. The experimenter presented the details of the study to a fifth form class, once again acknowledging to the male students the importance of studies which focus on their role in adolescent pregnancy. Female students were given an information sheet, and those volunteering to participate who were under 16 were given a permission slip, which was to be completed by a parent or caregiver and returned to school the next day. The questionnaire was administered during school time the next day, and completed questionnaires were

handed back to the experimenter.

Of the 50 questionnaires distributed to students, 35 were returned. For statistical analysis, these subjects were divided into sexually active and non-sexually active subjects. It was considered unethical to ask control subjects to disclose this to the experimenter at the time of administration of the questionnaire, therefore it was impossible to ensure that an equal number of control subjects were sexually active and non-sexually active.

4. FOLLOW-UP

Despite the overwhelming support and enthusiasm the staff at each of the seven agencies showed towards this research, very few pregnant young women chose to participate in this study, resulting in only 14 completed questionnaires being returned. Therefore, follow-up information investigating possible reasons for the low response rate was gathered from the seven participating agencies.

Being employed at the Family Planning Association Youth Clinic in Christchurh, the experimenter had the opportunity to experience first hand the reluctance of potential subjects to complete the questionnaire, and used this experience to formulate a list of possible reasons for the poor response rate.

Each of the seven agencies were sent a letter thanking them for their efforts and

explaining the poor response rate. Enclosed were copies of a short questionnaire (Appendix E), designed by the experimenter, which was to be completed by staff at each agency and returned to the experimenter. This questionnaire included a list of seven possible reasons why the response rate was so low, with an eighth category labelled 'other'. These eight options were to be ranked from 1 to 8, with 1 representing the option considered to be the most important reason for the low response rate. There was also space provided for additional comments.

The aim of this short questionnaire was to identify the most popular reasons for non-participation according to those who have regular contact with pregnant adolescents, in order to aid future research in this area. Therefore the questionnaire was coded by calculating which of the eight options were ranked highly the most consistently by the staff members.

CHAPTER THREE

RESULTS

1. INTRODUCTION

This chapter provides descriptive information and statistical analyses of the demographic characteristics of the 49 subjects, and relationships between pregnancy/sexual activity status, self esteem, alcohol use and attachment styles.

Data were analysed in the following manner:

1. A summary of responses to items in Questionnaire 1 (demographic characteristics) are presented in this section. Where appropriate, significance tests were performed, in order to ascertain whether the measured differences between pregnant, non-pregnant sexually active and non-sexually active subjects are significant, or purely occur by chance. A chi square analysis was used, as the variables measured by the demographic questions were categorical.

2. One way ANOVA's (factorial) were used to compare self esteem and alcohol use scores for the three groups of interest; pregnant, non-pregnant sexually active, (NP/SA) and non-sexually active subjects (NSA), in order to ascertain whether the variance between the scores for these three groups was significant.

3. A Chi-square analysis was used to analyse the relationship between pregnancy/sexual activity status and attachment style, because both of these variables are categorical. The four attachment categories were broken down into secure and insecure, (with the insecure category incorporating those who rated themselves as preoccupied, dismissive

or fearful of romantic relationships), as the cell sizes were too small to statistically analyse the distribution of subjects for all four attachment styles.

4. One way ANOVA's are used to compare attachment style with alcohol use scores and also with self esteem scores, because the attachment style measure is a category as opposed to a score. Therefore, in this instance, attachment style is the independent variable.

The Pearson Product Moment Correlation Coefficient is used to measure the relationship between alcohol use scores and self esteem scores, because both of these variables are continuous. This correlation measures the extent of the relationship between two variables, the direction of the relationship, and whether the difference between the two variables is significant or not.

Data are analysed using the computer software package Statview (Abacus, 1987). The raw data for the 49 subjects can be found in the appendices (Appendix F). This chapter presents these findings.

2. DEMOGRAPHIC CHARACTERISTICS

There were 49 subjects in this study. The experimental group was made up of 14 young women, 12 of whom were pregnant at the time of completing the questionnaire, and two of whom had recently given birth. This group is referred to as the 'pregnant' group.

The control group, referred to as the 'non-pregnant' group, was made up of 35 young women attending a Christchurch secondary school, 16 of whom had had sexual intercourse (45.7%), and 19 of whom had not. Therefore the control group is divided into two groups for many of the statistical analyses, referred to as the non-pregnant sexually active group (NP/SA), and the non-sexually active group (NSA). Two subjects in the pregnant group had had a previous pregnancy (14.3%) and two of the subjects in the non-pregnant group had been pregnant in the past (12.5%).

An attempt was made to match the ages of the non-pregnant subjects with the pregnant subjects, by looking at the pattern of ages in the pregnant group, and deliberately seeking more or less control subjects in each age group according to this pattern. No pregnant subjects were aged 14, therefore no 14 year old control subjects were sought, making the age range from 15 to 19. As a result the mean ages of the pregnant and non-pregnant groups was very similar, being 17.1 *(SD = 1.21)* and 16.7 *(SD =1.04)* respectively.

No subjects in the pregnant or non-pregnant groups identified as being of Pacific Island origin. None of the pregnant group identified as being Asian, with five subjects (35.7%) identifying as New Zealand Maori and nine subjects (64.3%) as Pakeha/European. Three non-pregnant subjects (8.6%) identified as being Asian, one (2.9%) as New Zealand Maori, with the remaining 31 subjects (88.6%) identifying as Pakeha/European.

The two groups differed regarding parents marital status, as for the pregnant group, six subjects' (42.9%) parents were divorced or separated, and six (42.9%) were together. Whereas for the non-pregnant group, only five subjects' (14.3%) parents were divorced

or separated, and 25 (71.4%) were still together. The remainder were either remarried or deceased, with no subjects reporting that their parents had never married. A Chi-square analysis revealed that this difference was not significant *[x (3)= 5.56, ns].*

Subjects in the pregnant and non-pregnant group also differed regarding the number of brothers or sisters they have. Seven (50%) pregnant subjects had more than two siblings, whereas only seven of the 35 (20%) non-pregnant subjects had more than two siblings. This difference was not found to be significant by a Chi-square analysis *[x (5)= 6.8, ns].*

For the demographic questions regarding sexual activity and contraception, statistics were computed using only the 16 subjects in the non-pregnant group who reported having had sexual intercourse. Differences were found between the pregnant and non-pregnant subjects regarding age of first sexual intercourse. For the pregnant group, nine subjects (64.3%) were under the age of 16 when they first had sexual intercourse, with only five (31.3%) of the non-pregnant sexually active group being under 16 at the time of first intercourse. However a chi-square analysis showed that this difference was not significant *[x (1)= 3.27, ns].*

Figures 1 and 2 show the extent of contraceptive use for pregnant and non-pregnant sexually active subjects, respectively. The greatest difference between the two groups is in the percentage of subjects who report using contraception every time they have sexual intercourse, with eight subjects (50%) in the non-pregnant group using contraception everytime, and only one subject (7.1%) from the pregnant group. The percentage of subjects using contraception 'almost always' is similar for the pregnant

(35.7%) and non-pregnant (43.8%) groups, with a lot more pregnant subjects falling into the 'sometimes' category (35.7%) than non-pregnant subjects (6.3%). None of the non-pregnant subjects reported never using contraception, whereas 21.4 percent of pregnant subjects fell into this category. A Chi-square analysis found the difference in frequency of contraceptive use for the two groups to be significant *[x (3)= 11.36, p< .009]*.

FIGURE 1

CONTRACEPTIVE USE OF PREGNANT SUBJECTS

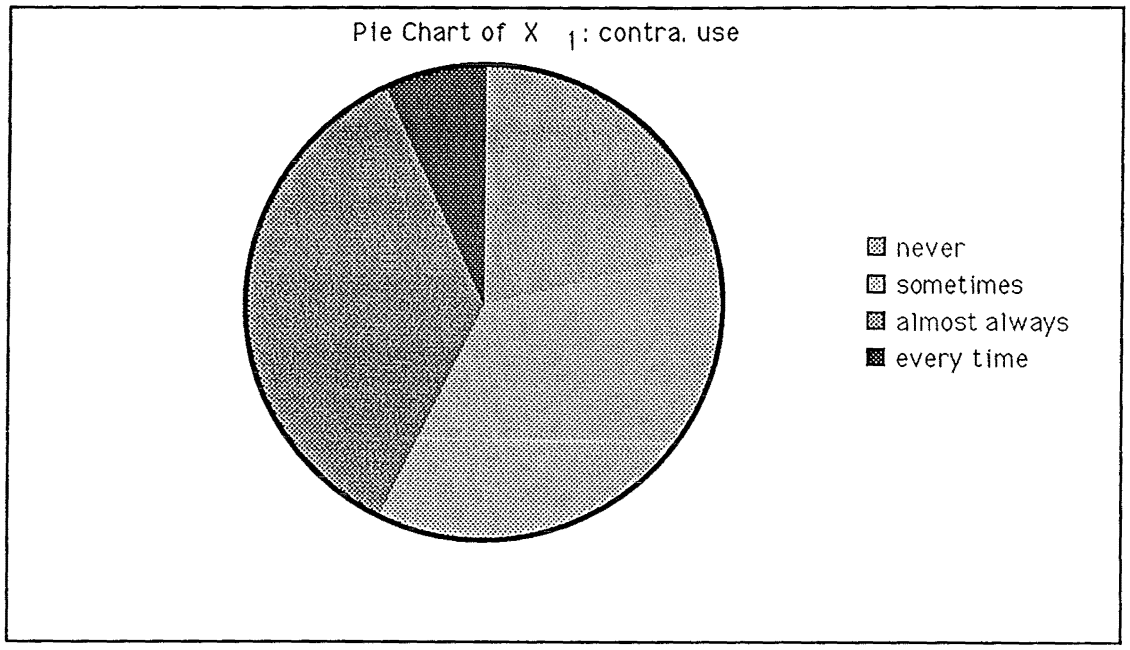
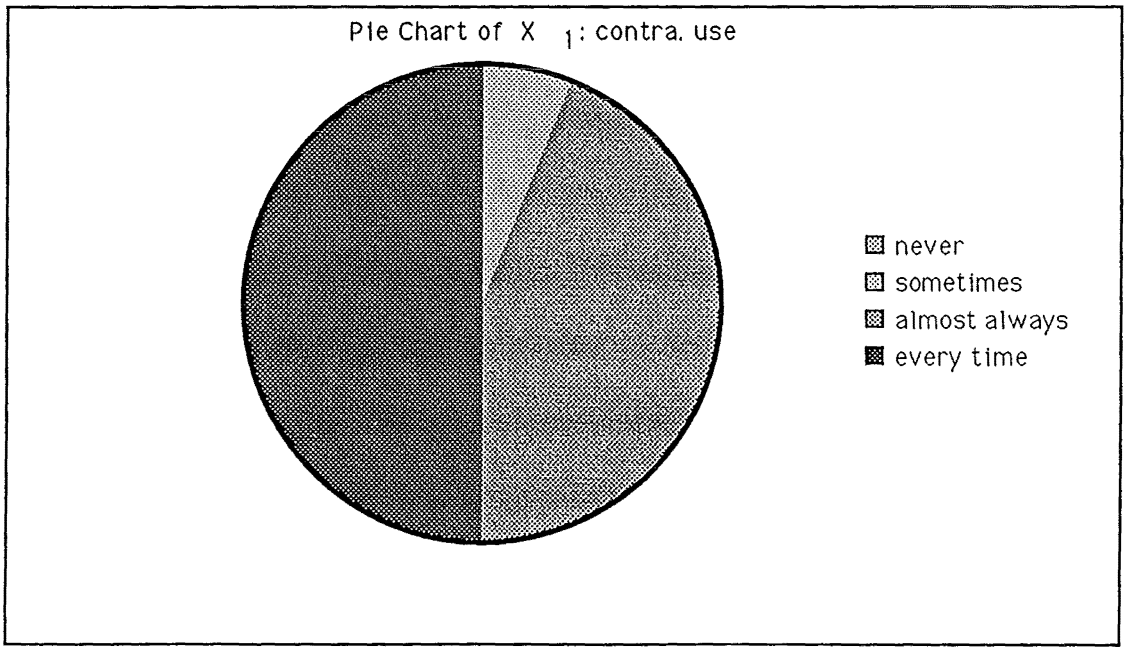


FIGURE 2

CONTRACEPTIVE USE OF NON-PREGNANT SUBJECTS



The subjects who use contraception were asked which method they use. Responses to this question were also varied, as can be seen in Table 1, with the most popular method for both groups of subjects being the combined use of the pill and condoms. The difference in choice of contraceptive methods between pregnant and non-pregnant sexually active subjects was found to be insignificant *[x (3)= 2.43, ns].*

TABLE 1

PERCENTAGES OF METHOD OF CONTRACEPTION USED

GROUPS:	**withdrawal**	**pill**	**condoms**	**pill & condoms**	**depo injection**
Preg. group	8.33	16.7	16.7	58.3	0
NP/SA group	0	25.0	31.3	43.8	0

The final demographic characteristic examined here is whether or not subjects had ever been forced to have sexual intercourse. Five pregnant subjects (38.5%), and two (12.5%) non-pregnant sexually active subjects reported having been forced to have sex. A Chi-square analysis found that the difference in the number of subjects being forced to have sex for the two groups was not significant *[x (1)= 2.64, ns].*

3. HYPOTHESIS ONE: SELF ESTEEM

Although the mean self esteem score of the non-sexually active group was higher *(M= 134.5, SD= 19.7)* than that of the pregnant group *(M= 127.9, SD= 31.8)* and the non-pregnant sexually active group *(M= 128, SD= 21.6)*, a one way ANOVA found that this difference was not statistically significant, $F\ (2,48) = .43$, *ns.*

4. HYPOTHESIS TWO: ALCOHOL USE

A one way ANOVA comparing the alcohol scores of the pregnant, non-pregnant sexually active and non-sexually active groups was significant, $F\ (2,40) = 3.47$, $p < .04$. The mean alcohol use score for non-pregnant sexually active subjects *(M= 16.9, SD= 4.9)* was significantly higher than that of the non-sexually active subjects *(M= 12.4, SD= 5.7)*, (post hoc testing using Fisher PLSD). A higher alcohol use score represents higher alcohol use, therefore this significant result indicates that, of the non-pregnant subjects, those who are sexually active drank, on average, more than their non-sexually active counterparts.

Despite the fact that the mean alcohol use score of the pregnant subjects *(M= 13, SD= 3.5)* was similar to that of the non-sexually active subjects, there was no significant difference between the pregnant and non-pregnant sexually active subjects. The relationship between pregnant and non-sexually active subjects was also insignificant.

5. HYPOTHESIS THREE: ATTACHMENT STYLE

A Chi-square analysis showed that there was no significant difference in attachment style for pregnant, non-pregnant sexually active and non-sexually active subjects *[x (2)= 1.7, ns].* Therefore the pregnant subjects were no more likely than non-pregnant subjects to be insecurely attached in their romantic relationships (see Table 2). Pregnant and non-pregnant sexually active subjects were then combined, forming one group comprising all of the sexually active subjects. This enabled the experimenter to compare this group with the non-sexually active subjects, to analyse the relationship between sexual activity and attachment style, which was also found to be insignificant *[x (1)= 1.7, ns].*

TABLE 2

ATTACHMENT STYLE BY PREGNANCY STATUS

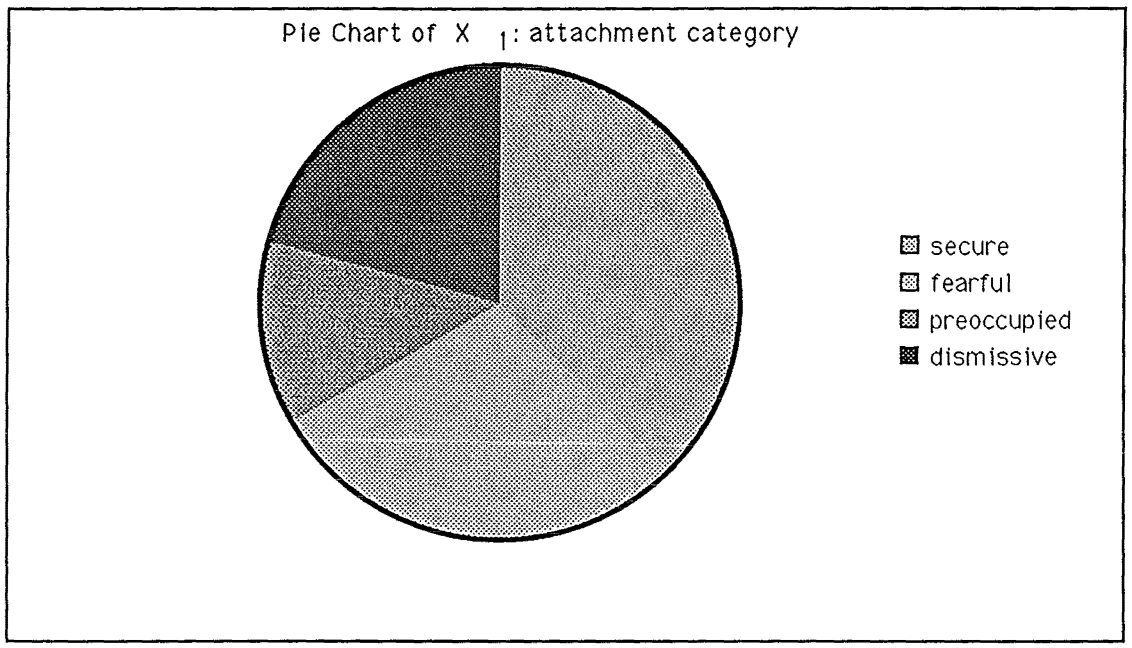
GROUPS:	**SECURE**	**INSECURE**	**TOTAL**
Pregnant Group	6	7	**13**
NP/SA Group	7	9	**16**
NP/NSA Group	5	14	**19**
TOTAL	**18**	**30**	**48**

It is interesting to note that 30 (62.5%) of the 48 subjects who completed the attachment styles questionnaire could be classified as insecurely attached in their romantic relationships, leaving only 18 who were securely attached.

Figure 3 shows the distribution of subjects' among the four attachment styles. This also demonstrates that more subjects were insecurely attached than securely attached, as 18 subjects were securely attached, 14 subjects made up the fearful category, six were preoccupied, and ten were dismissive in their romantic relationships.

FIGURE 3

THE DISTRIBUTION OF SUBJECTS AMONG THE FOUR ATTACHMENT STYLES



6. HYPOTHESIS 4: RELATIONSHIP BETWEEN THE THREE DEPENDENT VARIABLES

A one way ANOVA found no significant relationship between attachment style and alcohol use scores, $F\ (1,40) = .67$, *ns*, therefore indicating that insecure subjects did not drink significantly more or less than secure subjects.

A one way ANOVA revealed a significant relationship between attachment style and self esteem scores, $F\ (1,47) = 5.1$, $p<.03$. Securely attached subjects tended to have higher self esteem *(M =140.3, SD =21)*, than insecurely attached subjects *(M =124.6,*

SD =24.5).

A Pearson Product Moment Correlation showed a significant relationship between alcohol use and self esteem *[r= -.35, p<.05, df= 41].* Therefore indicating that those with lower self esteem tended to drink more alcohol than subjects with higher self esteem.

7. FOLLOW-UP

The results of staff members (at the seven participating agencies), ranking each of the eight statements in the follow-up questionnaire identified three reasons which the majority of participants considered to be responsible for the low response rate of pregnant adolescents. These were that the young pregnant women were too distressed about their pregnancy to participate, that it was considered inappropriate to ask the young women at that time, and that it was too difficult for staff to remember to mention the study.

Patterns also emerged in the additional comments made by the staff members. The most common comments were that staff forgot to mention the study to pregnant young women they had contact with, and that they did not have time to go through the questionnaire with them as there is so much to get through in an appointment/session with a pregnant adolescent. Many of the staff members commented that if they had had time to go through the questionnaire with the young women, they would have a better

understanding of what is involved and would be more inclined to agree to complete it.

Another popular comment was that it would have been more appropriate to administer the questionnaire to young women at one of their post termination appointments. However the present investigation was aimed at young women in the early stages of pregnancy, and to young women who continue their pregnancy as well as those who terminate.

The results of the questionnaire shed some light on the reasons for the low response rate, which has powerful implications for future research.

CHAPTER FOUR

DISCUSSION

PART ONE

RESULTS

1:1 DEMOGRAPHIC CHARACTERISTICS

The results of the demographic questions in Questionnaire 1 show some marked differences, not only between the pregnant and non-pregnant groups, but also when the latter group is divided into sexually active and non-sexually active subjects.

The finding that 14.3 percent of the pregnant group had been pregnant before demonstrates that repeat pregnancies are definitely an issue of concern, as has been demonstrated in overseas studies. It has become evident that in the United States, those young women who give birth at or below the age of 16 are at an increased risk of

becoming pregnant again within the next two years, and therefore intervention programmes for adolescent mothers have a strong focus on preventing repeat pregnancies (Rubenstein, Panzarine, & Lanning, 1990). Recent New Zealand adolescent pregnancy statistics (e.g. Brander, 1991; Maskill, 1991), have not included repeat pregnancies, therefore the result of this investigation regarding repeat pregnancies cannot be compared with a 'norm' gathered from a larger sample.

The finding that a higher percentage of young women in the pregnant group identified as New Zealand Maori (55.7%) than in the non-pregnant group (2.9%) is consistent with recent New Zealand research which found that adolescent pregnancy is almost three times as common in Maori than pakeha young women (Department of Health, 1990). This research also found Pacific Island rates of adolescent pregnancy to be similar to those of Maori adolescents (Department of Health, 1990), whereas, in the present research, none of the pregnant or non-pregnant subjects identified as being of Pacific Island origin.

The cultural differences found in the present study correspond to those found in the United States, where the majority of adolescent pregnancies are to African-American young women (Held, 1981; Swenson, 1992), with African-American adolescents also initiating intercourse at an earlier age (Yawn & Yawn, 1993).

The family characteristics investigated in the present study also show some interesting, yet not significant, differences between the pregnant and non-pregnant groups. It was found that almost half of the pregnant subjects' parents were separated or divorced, compared with 14.3 percent in the control group. These figures do not include those

whose parents have remarried, therefore one could assume that the majority of these subjects (who are still living at home) are in single parent families.

This finding is again consistent with overseas research. Adolescent pregnancy has consistently been associated with family stress, dysfunctional families, father absence, and divorce (Cervera, 1994; Keddie, 1992; Phipps-Yonas, 1980; Patten, 1981; Robbins, Kaplan, & Martin, 1985). Single parent families, marital instability, and poor familial communication have been associated with early sexual activity (Brooks-Gunn & Furstenberg, 1989; Miller & Moore, 1990; White & DeBlassie, 1992).

Possible explanations for this increase in adolescent pregnancy and early onset of sexual activity among those from one parent families include that there may be less parental supervision and guidance, unresolved dependency needs, a search for love, economic hardship creating a greater push to leave home, fewer educational and career opportunities (Robbins, Kaplan, & Martin, 1985), or the desire to start a family anew (Cervera, 1994).

The present study also found that pregnant adolescents were much more likely to have more than two siblings (50%) than non-pregnant adolescents (20%). This finding, although not reaching significance, corresponds with overseas research which found that number of siblings was significantly related to adolescent pregnancy (Robbins et al., 1985). Possible explanations for this finding include that adolescents in larger families are often required to take on adult responsibilities (i.e. greater responsibility for household tasks and care of younger siblings), which may lead to the assumption of adult sexual behaviours, or that adolescents with more siblings probably receive less

parental attention and supervision (Robbins et al., 1985).

Of those subjects in the control group, 46 percent were sexually active. This is higher than findings by other New Zealand researchers, as Weatherley (1993) found that 37 percent of her sample of adolescent female high school students were sexually active, with other researchers comparing their own findings with other New Zealand research, resulting in estimates of between 30 and 45 percent (Maskill, 1991) and between 25 and 70 percent (Lynskey & Fergusson, 1993) of adolescent females being sexually active. Similarly, in the United States many researchers claim that approximately half of all adolescent females are sexually active (Small & Luster, 1994; Stafford, 1987), with a recent study finding that as many as 77 percent of female subjects had had sexual intercourse by the age of 18 (Devine, Long, & Forehand, 1993).

The finding that a much larger percentage of the pregnant group became sexually active under the age of 16 (64.3%), than the non-pregnant sexually active group (31.3%) is consistent with the vast amount of overseas research which found that early onset of sexual activity is related to adolescent pregnancy (McCollough & Scherman, 1991; White & DeBlassie, 1992).

A possible explanation for this is that younger adolescents are less likely to use contraception, therefore making younger adolescents who are sexually active more vulnerable to pregnancy (Brooks-Gunn & Furstenberg, 1989; Maskill, 1991). Early onset of sexual activity is also related to other adolescent 'problem' behaviours, such as alcohol and drug use (Devine, Long, & Forehand, 1993; Miller & Moore, 1990), which have been found to make the use of effective contraception less likely (Flanigan

& Hitch, 1986; Strunin & Hingson, 1992). Therefore this link also makes younger sexually active adolescents more vulnerable to pregnancy. New Zealand research on the sexual practices of adolescents has looked at the age of first intercourse, but has not related this to adolescent pregnancy (Brander, 1991; Maskill, 1991).

The significant finding regarding contraceptive use in the present study showed considerable differences between the two groups. High percentages of the pregnant group reported using contraception inconsistently or never, while 50 percent of non-pregnant sexually active subjects use contraception every time they have sex, with none of these subjects reporting that they never use contraception. This difference in contraceptive use between the two groups was expected, as it is very unlikely that the pregnant subjects would have become pregnant if they had always used contraception. Therefore this result suggests a causal relationship.

This finding that half of the non-pregnant sexually active group use contraception every time they have sex is encouraging when compared with overseas research. American research reports that the number of adolescent females consistently using contraception is far less than 50 percent (Miller & Moore, 1990), with many only using contraception occasionally or never (Brooks-Gunn & Furstenberg, 1989). New Zealand research has found consistent contraceptive use to be even more common than was found in the present study, with figures ranging from 50 percent (Brander, 1991; Maskill, 1991) to 87 percent (Lynskey & Fergusson, 1993).

The present study found that for both the pregnant group and the non-pregnant sexually active group, the most commonly used method of contraception was combined use of

the pill and condoms. This is consistent with other New Zealand research, which, although most of these authors did not include the combined use of the pill and condoms as one of the response options, reported high condom use. Lynskey and Fergusson (1993) found the condom to be the most popular method of contraception for their sample, with 81.5 percent using this method. Similarly, Weatherley (1993) reported that 88 percent of sexually active subjects used condoms. Brander (1991) found that 78 percent of subjects used condoms at first intercourse, with 44 percent using a combination of the pill and condoms as their ongoing method of contraception. Maskill (1991), in her review of New Zealand research in this area, also recognised the pattern of increasing condom use. Overseas studies have also found that condom use is increasing (Brooks-Gunn & Furstenberg, 1989; Miller & Moore, 1990).

The most obvious reason for this increase in condom use is the advent of HIV/AID's, and the ensuing media publicity, health promotion and prevention education which advocates the condom as the most effective means of preventing the sexual transmission of HIV, barring abstinence. Lynskey and Fergusson (1993) suggest that this publicity has led to greater availability and acceptance of the condom, which has resulted in its increased use among adolescents.

The final demographic characteristic looks at whether participants have ever been forced to have sexual intercourse. The difference between pregnant subjects (35.7%) and non-pregnant sexually active subjects (12.5%) is substantial, yet was not found to be significant using a Chi square test. Overseas research has found strong links between adolescent pregnancy and sexual abuse (McCollough & Scherman, 1991), with one study finding that as many as two-thirds of a sample of young women who had

experienced an adolescent pregnancy had also been sexually abused (Boyer & Fine, 1992). Early onset of sexual activity has also been related to sexual, physical and psychological abuse (Swenson, 1992).

Recent New Zealand research into adolescent pregnancy has not included data as to the proportion of these young women who have been sexually abused. In light of the fact that the present study focused only on forced intercourse, (therefore excluding other forms of sexual abuse such as touching, violation and molestation), such statistics would give a valuable insight into the number of these young women who had suffered various forms of sexual abuse.

1:2 HYPOTHESIS ONE

Hypothesis one predicted that the self esteem scores of pregnant subjects will be significantly lower than those of non-pregnant sexually active or non-sexually active subjects. Despite the mean self esteem scores differing in the direction predicted by this hypothesis, the difference was not significant.

Past research also investigating the possibility of a link between self esteem and adolescent pregnancy is inconclusive, as results have been varied and inconsistent. Many reasons have been suggested for this variation in research findings.

Many researchers have suggested that the problems inherent in measuring a concept as

ambiguous as self esteem are responsible for the inconsistent findings regarding the self esteem of adolescents, and in particular, pregnant adolescents. Authors have not yet agreed on an overall definition of self esteem (Robson, 1988; 1989). Therefore a multitude of self esteem scales exist, which all claim to measure a construct which has yet to be defined. Some researchers have gone as far as to specify the areas of improvement with the scales they used. Such critiques include the suggestion that more situation-specific measures be used (Weatherley, 1993), that the language used in these scales is more precise (Zongker, 1979), and that these scales should be designed specifically for use with adolescents, rather than younger children (Hunter & Stringer, 1993). Due to these criticisms of traditional self esteem scales, the present investigation used a more recent scale which was developed specifically for use with adolescents, therefore eliminating some of these measurement problems, and precluding the use of these measurement problems as an explanation for this insignificant finding.

However one problem which may offer a partial explanation for the insignificant difference in self esteem scores for subjects in the present study is the fact that self esteem scales are standardised, usually according to the dominant, male, white, middle-class culture, a group into which pregnant adolescents definitely do not fit. As Watkins et al. (1988) suggest, a specific self esteem scale is needed for New Zealand adolescents, which is appropriate to New Zealand's culture. Therefore, perhaps the self esteem scores obtained in the present study were affected by the fact that it was an American scale.

Many of the past studies which also found no significant difference in the self esteem of pregnant and non-pregnant adolescents were similar to the present study in that they

recruited subjects from agencies which offer support, antenatal health care, counselling or education to pregnant young women. It is thought that some form of intervention can actually increase self esteem (Patten, 1981), or that the young women who present for this sort of care must be reasonably accepting of thier pregnancy, which also may be an indicator of a better opinion of oneself. Therefore, a more representative sample of pregnant adolescents may have yielded different self esteem results.

A further explanation for the lack of support found for hypothesis one, and perhaps the most obvious explanation, is that there is in fact no difference in the self esteem of pregnant and non-pregnant New Zealand adolescents in the nineties. Overseas studies which have found significant differences in the self esteem of pregnant and non-pregnant adolescents were generally conducted in the late seventies or early eighties, and used predominantly African-American samples (Drummond & Hansford, 1991; Horn & Rudolph, 1987; Lineberger, 1987; Patten, 1981; Zongker, 1977). Therefore the generalizability of these findings to New Zealand adolescents in 1995 is limited.

The relationship between self esteem and sexual permissiveness is thought to depend on the conservativeness of the social environment at the time (Herold et al., 1979). Adolescents today do not suffer the same 'sex guilt' as adolescents in the past were made to feel, and therefore may feel better about their sexual activity and a subsequent pregnancy, which may influence self esteem. Attitudes towards adolescent pregnancy today tend to be a lot more favourable than in the past, which also limits the generalizability of past studies (which found that pregnant adolescents had lower self esteem) to the present study.

If in fact pregnant adolescents do not have lower self esteem than non-pregnant adolescents, the search for similar personality and psychological variables which may be related to adolescent pregnancy should continue. The present author supports Weatherley's (1993) suggestion that 'empowerment' may be a more appropriate concept to measure when investigating adolescent sexual relations, as it is related to assertiveness, and resistance to sexual pressures.

Despite the fact that low self esteem may not be related to adolescent pregnancy, adolescent self esteem levels are generally lower than those of the adult population, irrespective of pregnancy (Lineberger, 1987; Musick, 1993; Osborne & Legette, 1982). Therefore, self esteem should still feature prominently in education aimed at preventing adolescent problem behaviours.

1:3 HYPOTHESIS TWO

Hypothesis two predicted that pregnant adolescents would drink, on average, more alcohol than non-pregnant sexually active or non-sexually active adolescents. Although alcohol use scores of the pregnant group were not significantly higher than those of the other two groups, sexually active subjects did drink significantly more alcohol than non-sexually active subjects.

In contrast to the research on self esteem, adolescent alcohol use is a much less ambiguous concept to measure, therefore the lack of support found for hypothesis two

cannot be explained by measurement problems. A possible explanation is that, although the pregnant subjects were asked to complete the questionnaire based on their behaviour and feelings before they became pregnant, some subjects answered the alcohol questions based on how much alcohol they currently drink, which is likely, hopefully, to be less than before they became pregnant. In analysing the raw data the experimenter found that three of the pregnant subjects did not answer the alcohol questionnaire at all, but wrote on it that they no longer drank alcohol since becoming pregnant. Therefore there was obviously some confusion over whether the questionnaire was measuring current alcohol use or past alcohol use. This leads to the assumption that perhaps alcohol use scores for the pregnant group were deflated because they answered the questions according to their current alcohol use while pregnant. In light of this possibility, the suggestion that pregnant adolescents do in fact drink more alcohol than their non pregnant counterparts cannot be discounted.

The finding that sexually active subjects drink significantly more alcohol than non-sexually active subjects is consistent with overseas research which has not only identified a link between alcohol use and sexual activity, but also with unprotected sex. Sexually active adolescents have been found to be more likely to use drugs, drink alcohol, and have unprotected sex (Flanigan & Hitch, 1986; Mott & Haurin, 1988; Rob, Reynolds, & Finlayson, 1990; Strunin & Hingson, 1992). Similarly, a recent New Zealand study found that adolescents who report frequent alcohol use, heavy drinking or alcohol related problems are more likely to be sexually active (Fergusson, Lynskey, & Horwood, 1994).

Many researchers have proposed possible reasons for this link between sexual activity

and alcohol use. Two of the most popular explanations are that the disinhibiting effects of alcohol may lead adolescents to engage in other deviant behaviours (such as sexual activity and cannabis use), and that these two behaviours occur together because they are part of a syndrome of problem behaviour which makes certain individuals more vulnerable to these behaviours (Fergusson et al., 1994; Strunin & Hingson, 1992). Further reasons for this link include the use of alcohol to change a young woman's feelings regarding sex (i.e. to decrease fear), and the suggestion that alcohol and sex are 'paired' as some sort of ritual which represents a rite of passage into the adult world (Flanigan & Hitch, 1986).

A proposed reason for the link between sexual activity and alcohol use which is briefly mentioned in a recent New Zealand study is that social and contextual factors, like social class and family disruption, put individuals at greater risk of a range of problem behaviours (Fergusson et al., 1994). This is related to the notion that a syndrome of problem behaviour exists. It has already been proven that single parent families and marital instability are associated with early sexual activity (Brooks-Gunn & Furstenberg, 1989; Miller & Moore, 1990; White & DeBlassie, 1992), and that this is thought to be due to reduced parental supervision and guidance (Robbins et al., 1985). Reduced parental supervision could also provide adolescents with greater opportunities to experiment with alcohol, therefore this suggestion warrants further research.

1:4 HYPOTHESIS THREE

The hypothesis that more pregnant adolescents would be insecurely attached than non-pregnant sexually active and non-sexually active subjects was not supported, as no significant differences were found between these three groups.

A possible explanation for this insignificant finding is the instrument itself, which was designed for use with adults. Perhaps this questionnaire was too difficult, and was not appropriate for adolescents, who generally have a lower level of comprehension and maturity than adults. A different result may have been obtained if a scale specifically measuring adolescent attachment styles in romantic relationships existed. Subjects were instructed that, if they had not had a romantic relationship, they were to imagine how they would feel if they were in one. This may have been the case for many of the control subjects, which also could have affected the results, as some adolescents may not have the cognitive capacity to think abstractly.

Another possible reason for this insignificant finding is that there is in fact no link between adolescent pregnancy and attachment styles in romantic relationships. This is not surprising considering the absence of any literature indicating that such a link may exists. The literature on adult attachment styles indicates that ones attachment style in romantic relationships effects many aspects of the relationship, including relationship satisfaction (Hammond & Fletcher, 1991), and interpersonal problems (Horowitz, Rosenberg, & Bartholomew, 1993). However, despite the suggestion by some authors that adolescents who become pregnant or engage in early sexual activity are more likely

to be unassertive or dependent in their romantic relationships (Jorgensen & Alexander, 1983; Musick, 1993; Yesmont, 1992), this does not necessarily lead to the assumption that they are more likely to be insecurely attached.

Despite the insignificant finding regarding a link between adolescent pregnancy and attachment styles in romantic relationships, it was found that 62.5 percent of subjects were insecurely attached in their romantic relationships. This figure is higher than the findings of studies using adult subjects, which have ranged from 44 percent to 53 percent of subjects being insecurely attached (Bartholomew & Horowitz, 1991; Feeney & Noller, 1990; Hammond & Fletcher, 1991; Hazan & Shaver, 1987). Therefore, although there may be no link with adolescent pregnancy, this finding that a large proportion of female adolescents are insecurely attached in their romantic relationships means that including some sort of relationship skills education in prevention programmes should still be a priority.

1:5 HYPOTHESIS FOUR

The findings of the analyses of relationships between self esteem, alcohol use and attachment style produced varied results.

No significant relationship was found between attachment style and alcohol use. This could be because the link which does exist between attachment style and substance use refers to an adolescent's attachment to the peer community, the adult community and

institutions, rather than attachment in romantic relationships (Fleming et al., 1982). However research into attachment styles during adolescence is very much at the preliminary stage, and more consistent and conclusive research is needed. Therefore, the possibility of a link between adolescent alcohol use and attachment style may exist, even if it is attachment to parents, peers or society, as opposed to attachment in romantic relationships.

The finding of the present study regarding the relationship between attachment style and self esteem is consistent with the wealth of research (using both adults and adolescents) which also found that securely attached subjects tend to have higher self esteem than insecurely attached subjects (Armsden & Greenberg, 1987; Bartholomew & Horowitz, 1991; Feeney & Noller, 1990; McCormick & Kennedy, 1994). This relationship was expected, as attachment style and romantic relationships are both very dependent upon ones self image.

The relationship between alcohol use and self esteem was also found to be significant, as subjects with low self esteem drank more alcohol than those with higher self esteem. Research into this relationship is sparse, however studies investigating the predictors of other adolescent behaviours or problems often mention both low self esteem and alcohol use or abuse. For example, alcohol use and low self esteem have both been related to adolescent suicide and depression (Neiger & Hopkins, 1988; Robson, 1988). One could speculate that low self esteem may play a causal role in adolescent alcohol use, as alcohol is often used by adolescents to mediate their moods, and, inadvertently, to increase their confidence (Flanigan & Hitch, 1986).

PART TWO

LIMITATIONS

The major limitation of the present study is the low response rate of participants for the experimental group, as only 14 pregnant adolescents returned completed questionnaires. A small sample size limits the power of the statistical analyses performed, and therefore influences the significance of the results and also limits the generalizability of these findings.

This limitation was the focus of the follow up study, which enabled staff members at the seven participating agencies to state the possible reasons for this low response rate. The three most common reasons stated by the staff members surveyed are methodological problems which are difficult for researchers to alleviate.

The fact that many of the young women were too distressed about their pregnancy to

participate in the study could only be improved if young women were asked in the later stages of their pregnancy, when they are perhaps more accepting of their pregnancy, and less distressed. However, this would bias the sample, as only those young women continuing the pregnancy would be included. The aim of the present study was to survey young pregnant women in the early stages of the pregnancy, so that their behaviour before they became pregnant was easier to recall, and so that their decision regarding the pregnancy was not a major factor in their responses to the questionnaire. Therefore, recruiting potential subjects in their first or second consultation/session at the agency is essential when attempting to measure the behaviour, feelings and attitudes of these adoelscents before they became pregnant.

Unfortunately this means that many potential subjects are going to be excluded because they are too distressed about their pregnancy to participate. This also adds another bias to the sample, as only those subjects who are not exhibiting too many signs of distress are asked to participate. There was no way to get around this limitation to the sample, as it was unethical to ask pregnant adolescents who are distressed to complete a questionnaire.

Many staff members also thought that the sample size was affected by the fact that it was often considered inappropriate to ask the subjects to participate, either because the young woman was so completely focused on the pregnancy and did not have the capacity to think of anything else at that time, or because there is so much to get through during a consultation with a young pregnant woman that it seems unfair to then ask her to complete a questionnaire. Another possible reason stated by the staff members, was that it was difficult for staff members to remember to mention the study

to young pregnant women. Both of these reasons are linked to time limitations, which many staff members mentioned in their additional comments. There is so much to be done during a consultation or session with a young pregnant woman, and she is faced with many difficult decisions. Therefore giving her a further decision of whether or not to complete a questionnaire may be inappropriate. The questionnaire is also not a high priority for staff in this situation, who are busy attending to the well-being of the young woman and her pregnancy, and who often have limited time.

These reasons for the low response rate are also difficult to address, as the length of, and the content to be attended to during a consultation/session is most definitely beyond the researchers control. This problem affects many researchers in this area, as most research on adolescent pregnancy involves accessing young pregnant women attending clinics or education groups.

In light of this discussion, the fact that the present study is limited by a small sample size is not easily solved, and will probably continue to limit future studies in this area. Offering some sort of incentive (such as a small amount of money, or 'lotto' ticket) is one alternative which the present researcher believes might succeed at attracting more subjects.

A further limitation of the present study is that participants were only sought from agencies dealing specifically with pregnant adolescents. Most research into adolescent pregnancy suffers from this limitation, as there does not seem to be any plausible way to access pregnant adolescents in the general population. This introduces a bias to the sample, as those who attend clinics or education programmes while pregnant may have

a different attitude towards their pregnancy than those who do not seek medical care or support during their pregnancy.

The fact that the demographic question regarding sexual abuse only specified forced sexual intercourse is also a limitation, as this excluded other forms of sexual abuse. Overseas research has consistently found sexual abuse to be linked to adolescent pregnancy (Boyer & Fine, 1992; McCollough & Scherman, 1991), therefore the chance of a similar link in New Zealand is likely. Limiting the question to forced intercourse lessens the likelihood of a significant result.

Some of the instruments used in the present study were also a limitation. The alcohol use questionnaire obviously caused confusion, as some of the pregnant subjects thought it was measuring present alcohol use rather than past alcohol use, and did not complete it, as they had stopped drinking due to their pregnancy. Some of the pregnant subjects who did complete the questionnaire may have answered the questions according to present alcohol use, therefore affecting the results. The questionnaire should have included a statement reminding subjects that the questionnaire is measuring alcohol use before they became pregnant, rather than leaving it up to the staff member administering the questionnaire to explain this to the subjects.

The self esteem and attachment styles questionnaires were also problematic, and may have affected the results, as was explained in the previous section. The absence of an appropriate definition of self esteem upon which all research in this area can be based, and age appropriate measures of both self esteem and attachment styles during adolescence may have played a part in the insignificant results found regarding both self

esteem and attachment styles in the present study.

Therefore, the instruments used in the present study were an important limitation.

The present study is also limited by the fact that it focused solely on female adolescents. Male adolescents are an important component in the issue of adolescent pregnancy, however very few authors have included them in their investigation. The male partners of pregnant adolescents are a very difficult group to access, as there is no medical reason for them to attend a clinic or education group. Accessing this group was considered beyond the scope of this investigation, however the author acknowledges the importance of researching this group of adolescents.

PART THREE

FUTURE IMPLICATIONS

1:1 IMPLICATIONS FOR PREVENTION

Both the significant and the insignificant findings of the present study have some important implications for the prevention of adolescent pregnancy.

The demographic characteristics of the subjects in this investigation have some powerful implications for prevention strategies, as they indicate the section of the adolescent population which these strategies should target, and the sexual and contraceptive behaviour of both pregnant and non-pregnant subjects.

The findings regarding parents' marital status, number of siblings and ethnic background, (which all correspond to past research in this area), help to identify which adolescents appear to be more at risk of becoming pregnant. However, this assumption should be made with caution, as although these links exist, many adolescent females who do not have these background factors also become pregnant. In light of these common background variables, those who are responsible for developing prevention programmes should ensure that they are applicable to those of different ethnic backgrounds (i.e., young Maori women in New Zealand), and that they include material on coping with divorce/separation and siblings.

A large proportion of pregnant subjects had become sexually active under the age of sixteen, therefore implying that prevention programmes should begin at the onset of puberty, to ensure that most adolescents are receiving the education before they become sexually active. This idea has been substantiated, as education which preceeds sexual activity is one of the features of the successful prevention programmes reviewed by Owens (1992).

The findings regarding contraceptive use indicate the extent of use, and the methods used, which can not only aid the development of future prevention programmes, but they also give an indication of which messages have got through to young people. Although purely speculative, one could assume that the fact that the combination of the pill and condoms is the most popular method of contraception is due to the wide-spread media campaign, health promotion and prevention strategies which have emerged since the advent of HIV/AIDS (Lynskey & Fergusson, 1993). Therefore, some aspects of this publicity and prevention programmes have been successful. The significant relationship

between frequency of contraceptive use and pregnancy indicates that prevention strategies need to focus strongly on the importance of using effective contraception consistently.

Although self esteem was not found to be related to adolescent pregnancy in the present study, the fact that adolescents in general have lower self esteem than the adult population means that improving self esteem should be a major component of any prevention programme aimed at adolescents (Lineberger, 1987; Musick, 1993; Osborne & Legette, 1982). Many authors propose that self esteem should be a major component of prevention programmes (Drummond & Hansford, 1991; Keddie, 1992; Patten, 1981; Robinson & Frank, 1994; Schultz, 1986; Shtarkshall, 1987), and self esteem has also featured predominantly in programmes which have been successful (Allen et al., 1990; Australian Federation of Family Planning Associations, 1983; Dryfoos, 1990; Owens, 1992).

Many of these successful programmes focus on decision-making skills, problem-solving skills, assertiveness skills and empowering the adolescents (Allen et al., 1990; Dryfoos, 1990; Owens, 1992). This is similar to the principles behind the 'Life Skills' programme being piloted in a South Island secondary school, which also focuses on self esteem, decision-making and problem-solving skills. Therefore, it is important that concepts similar to self esteem, like assertiveness and decision making skills, also feature in prevention programmes in order to truly empower adolescents to make responsible decisions which do not compromise their health.

The finding that alcohol use is related to sexual activity has powerful implications for prevention programmes, as past studies have consistently shown that this sexual activity

is often unprotected (Flanigan & Hitch, 1986; Mott & Haurin, 1988; Rob, Reynolds, & Finlayson, 1990; Strunin & Hingson, 1992). This demonstrates the need for prevention programmes to be broad and holistic, as adolescent sexual activity does not occur in a vacuum, but rather it is linked with many other factors, including alcohol use. This notion corresponds with both the theory that adolescent problem behaviours are linked, and the new research paradigm which advocates that research and programme development in this area should be multi-disciplinary (Jessor, 1993; Melchert & Burnett, 1990; Phipps-Yonas, 1980; Yawn & Yawn, 1993). A common feature of successful overseas prevention programmes, and the 'Life Skills' programme currently being piloted in New Zealand, is that they are all broad-based programmes, covering many aspects of the adolescents environment and life experiences, including alcohol use (Allen et al., 1990; Dryfoos, 1990; Owens, 1992). The findings of the present study regarding alcohol use suggest that this model should continue.

The finding that a large percentage of the adolescents sampled were insecurely attached in their romantic relationships has important implications for prevention programmes. Relationship skills and communication skills need to feature prominently in prevention programmes, so that young men and women have the skills and the confidence to recognize a relationship which is destructive or unhealthy. Adolescents themselves have stated that they want prevention programmes to include issues such as love, guilt about sex, sexual enjoyment, the 'double standard' and the emotional aspects of sex (Arborelius & Bremberg, 1988; Maslach & Kerr, 1983; Schinke, 1984; Welbourne-Moglia & Moglia, 1989). Successful programmes have included these sorts of issues (Allen et al., 1990; Dryfoos, 1990; Owens, 1992) and the New Zealand 'Life Skills' programme includes relationship skills.

The significant relationships between self esteem and attachment style and self esteem and alcohol use found in the present study, and the fact that self esteem and alcohol use are also linked to depression and suicide during adolescence (Neiger & Hopkins, 1988; Robson, 1988), provide further back-up for the argument that adolescent behaviours are interrelated. This therefore implies that prevention strategies should continue to be broad-based and holistic, and should focus on the prevention of many adolescent behaviours, such as alcohol use, low self esteem and suicide, rather than focusing solely on sexuality.

1:2 IMPLICATIONS FOR FUTURE RESEARCH

More general research into adolescent pregnancy in New Zealand is needed, as the literature review at the beginning of this report demonstrates the sparse amount of New Zealand research in this area in comparison with overseas efforts, as well as demonstrating the lack of Government funds which are allocated to research into adolescent issues. Therefore, I would recommend that all of the analyses in the present study are replicated, as with a larger sample these factors may in fact be significantly different for pregnant and non-pregnant adolescents.

The economic cost of adolescent pregnancy should be investigated, by calculating the costs of termination, doctors visits, delivery, adoption arrangements and welfare assistance. Although personal and societal costs must also be taken into account, knowledge of the economic cost would help to put the problem in context, and would

perhaps act as a catalyst for further spending on the prevention of adolescent pregnancy.

Studies investigating the possibility of a link between adolescent pregnancy and sexual abuse in New Zealand are necessary. As mentioned previously, overseas studies have consistently found a strong link between sexual abuse and adolescent pregnancy (Boyer & Fine, 1992; McCollough & Scherman, 1991), therefore there is a strong chance that a similar link exists for New Zealand adolescents, which could be identified if studies investigate various forms of sexual abuse, rather than just forced sex.

Future research should include the development of a more effective measure of self esteem, which caters specifically for New Zealand adolescents and which has not been standardized to fit the white, middle class, pakeha culture. This is a huge expectation, however without such a scale research into adolescent self esteem will continue to be inconclusive due to measurement problems, and the comparability of studies will continue to be limited by the use of many different scales.

Contemporary research should also build on Weatherley's (1993) idea that, when considering adolescent sexual relations, self esteem is not the most appropriate concept to measure. She suggests that we need to measure the pressures on adolescents, and how they exert control over these pressures. Therefore, maybe concepts such as assertiveness and empowerment are more relative to adolescent sexual behaviour and pregnancy.

The area of attachment in adolescent romantic relationships is also worthy of further study, as it gives a valuable insight into adolescent relationships. Future studies are needed which perform a more thorough examination of adolescent attachment in

romantic relationships, using an adolescent scale as opposed to a scale designed for use with adults. A face-to-face interview could also be used to provide additional information. An insight into adolescent attachment in romantic relationships would also shed some light on adolescent sexual relationships.

Finally, more thorough research into the role of male adolescents in adolescent pregnancy is needed, as adolescent pregnancy is becoming increasingly known as a problem facing male and female adolescents, rather than an adolescent female problem only. Characteristics of the male adolescent are now being investigated, with recent research finding that male adolescents who were responsible for a pregnancy had lower self esteem than non-fathers (Robinson & Frank, 1994). The increase in condom use (Brander, 1991; Brooks-Gunn & Furstenberg, 1989; Lynskey & Fergusson, 1993; Maskill, 1991; Miller & Moore, 1990; Weatherley 1993) also implies that young men are taking part in the decision to use contraception, as the use of the condom (in contrast to most other methods) involves the male partner's consent and co-operation, not to mention the possibility that the young man was the one who supplied the condom and initiated its use.

The implications of this are that the role of the male adolescent in the use of contraception has increased, which increases his role in the risk of pregnancy. Therefore, studies which compare the characteristics and sexual behaviours of male adolescents who have been involved in a pregnancy with those who have not would give a clearer insight into adolescent pregnancy.

PART FOUR

CONCLUSIONS

Knowledge of adolescent pregnancy and its contributing factors is crucial if New Zealand is to ameliorate this social problem, and decrease the rate of adolescent pregnancy in this country, which is currently the second highest in the industrialized world. The present investigation has investigated the background characteristics, self esteem, alcohol use and attachment style of pregnant and non-pregnant adolescents.

Despite the small sample group, the significant findings of this study support the findings of overseas studies and past New Zealand research. It was found that non-pregnant adolescents use contraception more frequently than pregnant adolescents, that sexually active subjects drank more alcohol than non-sexually active subjects, subjects with low self esteem were more likely to be insecurely attached, and tended to drink more alcohol.

Further findings which did not reach significance, but which showed substantial differences between pregnant and non-pregnant subjects, were parents marital status, number of siblings, age of first intercourse and forced sexual intercourse.

In reviewing the literature in this area, it quickly became apparent that adolescent pregnancy is merely one component of a pool of interrelated challenges and problem behaviours which adolescents in today's society are grappling with. Many of these problems compromise the health of our adolescents, not to mention the psychological and societal effects. These include risk-taking behaviours such as alcohol use, drug use, unprotected sexual intercourse, adolescent pregnancy, driving under the influence of alcohol and smoking. Further issues include the prevalence of mental illness among adolescents and the high suicide rate.

In recent years, research, policy and prevention strategies have begun to acknowledge the interrelatedness of the issues faced by adolescents, and have taken a more multi-disciplinary, integrated and broad-based approach. Prevention strategies which are based on this holistic approach have proven to be successful, including the preliminary evaluation of a New Zealand programme which is based on these principles.

However, despite recent attempts, adolescent issues do not yet receive the funding, or political support which is necessary to initiate some real changes in behaviour and attitudes. As Walton and colleagues states, "If we do nothing but observe their parade of disaster, which all too often ends in self-destruction, we are guilty of failing to use the tools, knowledge, and know-how at our disposal to assist our youth to become all that they can be" (Walton, Ackiss, & Smith, 1991, p. 442).

REFERENCES

Abacus Concepts (1987). *Statview II,* Abacus Concepts, CA.

Adcock, A. G., Nagy, S., & Simpson, J. A. (1991). Selected Risk Factors in Adolescent Suicide Attempts. *Adolescence,* **26,** 817-828.

Adams, J. and Lungley, S. (1993). *Sexuality Education in School: A Survey of Sexuality Policies and Programmes in New Zealand Secondary Schools.* Wellington, NZ: Ministry of Health.

Adler, N. L., and Hendrick, S. S. (1991). Relationships between Contraceptive Behaviour and Love Attitudes, Sex Attitudes, and Self Esteem. *Journal of Counselling and Development,* **70,** 302-308.

AIDS New Zealand (1994). Issue 23.

Allen, J. P., Aber, J. L., & Leadbeater, B. J. (1990). Adolescent Problem Behaviors: The Influence of Attachment and Autonomy. *Psychiatric Clinics of North America,* **13,** 455-467.

Arborelius, E. and Bremberg, S. (1988). "It is your Decision!"- Behavioural Effects of a Student-centred Health Education Model at School for Adolescents. *Journal of Adolescents,* **11,** 286-297.

Armsden, G. C. and Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Individual Differences and their Relationship to Psychological Well-Being in Adolescence. *Journal of Youth and Adolescence,* **16,** 427-454.

Australian Federation of Family Planning Associations Inc. (1983). *Sex Education and the FPAS.* Unpublished Manuscript.

Bagnall, G. and Plant, M. (1988). Alcohol Education: The Rocky Road Ahead. *Alcohol and Alcoholism,* **23,** 191-192.

Baker, S. A., Thalberg, S. P., & Morrison, D. M. (1988). Parents' Behavioural Norms as Predictors of Adolescent Sexual Activity and Contraceptive Use. *Adolescence,* **23,** 265-282.

Barth, R. P., Middleton, K. & Wagman, E. (1989). A Skill Building Approach to Preventing Teenage Pregnancy. *Theory into Practice,* **28,** 183-190.

Bartholomew, K. (1990). Avoidance of Intimacy: An Attachment Perspective. *Journal of Social and Personal Relationships,* **7,** 147-178.

Bartholomew, K. and Horowitz, L. M. (1991). Attachment Styles Among Young Adults: A Test of a Four-Category Model. *Journal of Personality and Social Psychology,* **61,** 226-244.

Bauman, K. E. and Fisher, L. A. (1986). On the Measurement of Friend Behavior in Research on Friend Influence and Selection: Findings from Longitudinal Studies of Adolescent Smoking and Drinking. *Journal of Youth and Adolescence,* **15,** 345-353.

Beck, K. H. (1987) Substance Use and Abuse by High School Students: A Continuing Dilemma for Health Educators. *Health Education Research,* **2,** 173-174.

Beck, K. H. and Lockhart, S. J. (1992). A Model of Parental Involvement in Adolescent Drinking and Driving. *Journal of Youth and Adolescence,* **21,** 35-51.

Berger, D. K., Kyman, W., Perez, G., Menendez, M., Bistritz, J. F., & Goon, J. M. (1991). Hispanic Adolescent Pregnancy Testers: A Comparative Analysis of Negative Testers, Childbearers and Aborters. *Adolescence,* **26,** 951-962.

Black, C. and DeBlassie, R. R. (1985). Adolescent Pregnancy: Contributing Factors, Consequenses, Treatment, and Plausible Solutions. *Adolescence,* **20,** 281-290.

Blaze-Temple, D. and Kai Lo, S. (1992). Stages of Drug USe: A Community Survey of Perth Teenagers. *British Journal of Addiction,* **87,** 215-225.

Boyer, D. and Fine, D. (1992). Sexual Abuse as a Factor in Adolescent Pregnancy and Child Maltreatment. *Family Planning Perspectives,* **24(4),** 4-11.

Brander, P. (1991). *Adolescent Sexual Practices.* Wellington, NZ: Department of Health, Health Research Services.

Brennan, K. A., Shaver, P. R., & Tobey, A. E. (1991). Attachment Styles, Gender and Parental Problem Drinking. *Journal of Social and Personal Relationships,* **8,** 451-466.

Brooks-Gunn, J. and Furstenberg, F. F. (1989). Adolescent Sexual Behaviour. *American Psychologist,* 249-257.

Brown, S. A. and Stetson, B. A. (1988). Coping with Drinking Pressures: Adolescent Versus Parent Perspectives. *Adolescence,* **23,** 297-301.

Burke, P. J. (1987). Adolescents' Motivation for Sexual Activity and Pregnancy Prevention. *Issues in Comprehensive Pediatric Nursing,* **10,** 161-171.

Cate, R. and Sugawara, A. I. (1986). Sex Role Orientation and Dimensions of Self Esteem Among Middle Adolescents. *Sex Roles,* **15,** 145-158.

Casswell, S., Stewart, J., Connolly, G. & Silva, P. (1991). A Longitudinal Study of New Zealand Children's Experience with Alcohol. *British Journal of Addiction,* **86,** 277-285.

Cervera, N. (1994). Family Change During an Unwed Teenage Pregnancy. *Journal of Adolescence,* **23,** 119-140.

Chilman, C. S. (1980). Social and Psychological Research Concerning Adolescent Childbearing: 1970-1980. *Journal of Marriage and the Family,* 793-805.

Choi, K. H. and Coates, T. J. (1994). Prevention of HIV Infection. *AIDS,* **8,** 1371-1389.

Clayton, R. R. and Ritter, C. (1985). The Epidemiology of Alcohol and Drug Abuse Among Adolescents. *Advances in Alcohol and Substance Abuse,* **4,** 69-97.

Cornelius, M. D., Day, N. L., Cornelius, J. R., Geva, D., Taylor, P. M., & Richardson, G. A. (1993). Drinking Patterns and Correlates of Drinking Among Pregnant Teenagers. *Alcoholism: Clinical and Experimental Research,* **17,** 290-294.

Counsell, A. M., Smale, P. N., & Geddis, D. C. (1994). Alcohol Consumption by New Zealand Women during Pregnancy. *The New Zealand Medical Journal,* **107,** 278-281.

Cowan, F. M. and Mindel, A. (1993). Sexually Transmitted Diseases in Children: Adolescents. *Genitourinary Medicine,* **69,** 141-147.

Critchlow-Leigh, B. (1990). The Relationship of Sex-Related Alcohol Expectancies to Alcohol Consumption and Sexual Behavior. *British Journal of Addiction,* **85,** 919-928.

Cvetkovich, G., Grote, B., Lieberman, E. J., & Miller, W. (1978). Sex Role Development and Teenage Fertility-Related Behaviour. *Adolescence,* **13,** 231-236.

Davis, R. A. (1989). Teenage Pregnancy: A Theoretical Analysis of a Social Problem. *Adolescence,* **14,** 19-27.

Department of Health. (1990). *Adolescent Sexuality. Report of the Taskforce on Adolescent Sexuality.* Wellington, New Zealand: Department of Health, Health Research Services.

Department of Statistics. (1991). *Demographic Trends 1990.* Wellington, NZ: Department of Statistics.

Devine, D., Long, P., & Forehand, R. (1993). A Prospective Study of Adolescent Sexual Activity: Description, Correlates, and Predictors. *Advances in Behaviour Research and Therapy,* **15,** 185-209.

Domino, G. and Blumberg, E. (1987). An Application of Gough's Conceptual Model to a Measure of Adolescent Self Esteem. *Journal of Youth and Adolescence,* **16,** 179-190.

Donovan, J. E. and Jessor, R. (1985). *Journal of Consulting and Clinical Psychology,* **53,** 890-904.

Dore, M. M. and Dumois, A. O. (1990). Cultural Differences in the Meaning of Adolescent Pregnancy. *Families in Society: The Journal of Contemporary Human Service,* **71,** 93-101.

Dougherty, D. M. (1993). Adolescent Health. *American Psychologist,* 193-201.

Drummond, R. J. and Hansford, S. G. (1991). Dimensions of Self Concept of Pregnant unwed Teens. *The Journal of Psychology,* **125,** 65-69.

Dryfoos, J. G. (1990). *Adolescents at Risk: Prevalence and Prevention.* Oxford: Oxford University Press.

Feeney, J. A. and Noller, P. (1990). Attachment Style as a Predictor of Adult Romantic Relationships. *Journal of Personality and Social Psychology,* **58,** 281-291.

Fergusson, D. M., Horwood, J. L. & Lynskey, M. T. (1994). The Comorbidities of Adolescent Problem Behaviours: A Latent Class Model. *Journal of Abnormal Child Psychology,* **22,** 339-354.

Fine, M. (1988). Sexuality, Schooling, and Adolescent Females: The Missing Discourse of Desire. *Harvard Educational Review,* **58,** 29-53.

Finkel, M. L. and Finkel, S. (1985). Sex Education in High School. *Society,* 48-52.

Fisher, W. A. (1990). All Together Now: An Integrated Approach to Preventing Adolescent Pregnancy and STD/HIV Infection. *SIECUS Report,* **18,** 1-11.

Fischman, S. (1975). The Pregnancy Resolution Decisions of Unwed Adolescents. *Nursing Clinics of North America,* **10.**

Flanigan, B. J. and Hitch, M. A. (1986). Alcohol Use, Sexual Intercourse, and Contraception: An Exploratory Study. *Journal of Alcohol and Drug Education,* **31(3),** 6-40.

Flannery, D. J., Vazsonyi, A. T., Torquati, J., & Fridrich, A. (1994). Ethnic and Gender Differences in Risk for Early Adolescent Substance Use. *Journal of Youth and Adolescence,* **23,** 195-213.

Fleming, J. P., Kellam, S. G., & Brown, C. H. (1982). Early Predictors of Age at First Use of Alcohol, Marijuana, and Cigarettes. *Drug and Alcohol Dependence,* **9,** 285-303.

Flewelling, R. L. and Bauman, K. E. (1990). Family Structure as a Predictor of Initial Substance Use and Sexual Intercourse in Early Adolescence. *Journal of Marriage and the Family,* **52,** 171-181.

Forrest, J. D. (1987). Unintended Pregnancy Among Americans. *Family Planning Perspectives,* **19,** 76-77.

Freeman, E. W., Rickels, K., Huggins, G. R., & Garcia, C. (1984). Urban Black Adolescents who Obtain Contraceptive Services Before or After their First Pregnancy. *Journal of Adolescent Health Care,* **5,** 183-190.

Fromme, K. Rivet, K. (1994). Young Adults' Coping Style as a Predictor of their Alcohol Use and Response to Daily Events. *Journal of Youth and Adolescence,* **23,** 85-97.

Gerrard, M. (1987). Sex, Sex Guilt, and Contraceptive Use Revisited: The 1980's. *Journal of Personality and Social Psychology,* **52,** 975-980.

Giblin, P. T., Poland, M. L., & Ager, J. W. (1988). Clinical Applications of Self Esteem and Locus of Control to Adolescent Health. *Journal of Adolescent Health Care,* **9,** 1-14.

Gilchrist, L. D., Gillmore, M. R., & Lohr, M. J. (1990). Drug Use Among Pregnant Adolescents. *Journal of Consulting and Clinical Psychology,* **58,** 402-407.

Gilchrist, L. D. and Schinke, S. P. (1983). Coping with Contraception: Cognitive and Behavioural Methods with Adolescents. *Cognitive Therapy and Research,* **7,** 379-388.

Gordon, S. (1986). What Kids Need to Know. *Psychology Today,* 22-26.

Gray, M. D., Lesser, D., Rebach, H., Hooks, B., & Bounds, C. (1988). Sexual Aggression aand Victimization: A Local Perspective. *Response to the Victimization of Women and Children,* **11(3),** 9-13.

Gruber, E. and Chambers, C. V. (1987). Cognitive Development and Adolescent Contraception: Integrating Theory and Practice. *Adolescence,* **22,** 661-670.

Hall, J. A., Henggeler, S. W., Felice, M. E., Reynoso, T., Williams, N. M., & Sheets, R. (1993). Adolescent Substance Use during Pregnancy. *Journal of Pediatric Psychology,* **18,** 265-271.

Haffner, D. W. (1990). Moving Towards a Healthy Paradigm of Teen Development. *SIECUS Report,* 12-14.

Haffner, D. W. (1993). Toward a New Paradigm on Adolescent Sexual Health. *SIECUS Report,* 26-30.

Hammond, J. R. and Fletcher, J. O. (1991). Attachment Styles and Relationship Satisfaction in the Development of Close Relationships. *New Zealand Journal of Psychology,* **20,** 56-62.

Hawton, K. and Fagg, J. (1992). Deliberate Self-Poisoning and Self-Injury in Adolescents. *British Journal of Psychiatry,* **161,** 816-823.

Hazan, C. and Shaver, P. (1987). Romantic Love Conceptualized as an Attachment Process. *Journal of Personality and Social Psychology,* **52,** 511-524.

Held, L. (1981). Self Esteem and Social Network of the Young Pregnant Teenager. *Adolescence,* **16,** 905-912.

Hendrick, C. and Hendrick, S. S. (1989). Research on Love: Does it Measure Up? *Journal of Personality and Social Psychology,* **56,** 784-794.

Herold, E. S., Goodwin, S., & Lero, D. S. (1979). Self Esteem, Locus of Control, and Adolescent Contraception. *The Journal of Psychology,* **101,** 83-88.

Herz, E. J. and Reis, J. S. (1987). Family Life Education for Young Inner-City Teens: Identifying Needs. *Journal of Youth and Adolescence,* **16,** 361-377.

Hollingsworth, D. R. and Felice, M. (1986). Teenage Pregnancy: A Multiracial Sociologic Problem. *American Journal of Obstetrics and Gynecology,* **155,** 741-746.

Holmbeck, G. N., Crossman, R. E., Wandrei, M. L. & Gasiewski, E. (1994). Cognitive Development, Egocentrism, Self Esteem, and Adolescent Contraceptive Knowledge, Attitudes and Behavior. *Journal of Youth and Adolescence,* **23,** 169-193.

Horn, M. E. and Rudolph, L. B. (1987). An Investigation of Verbal Interaction, Knowledge of Sexual Behavior and Self Concept in Adolescent Mothers. *Adolescence,* **22,** 591-598.

Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal Problems, Attachment Styles, and Outcome in Brief Dynamic Psychotherapy. *Journal of Consulting and Clinical Psychology,* **61,** 549-560.

Hunter, J. A. and Stringer, M. (1993). A Short Measure of Self Esteem: Some Data on Reliability. *Perceptual and Motor Skills,* **76,** 425-426.

Hurrelmann, K. (1990). Health Promotion for Adolescents: Preventive and Corrective Strategies against Problem Behavior. *Journal of Adolescence,* **13,** 231-250.

Jessor, R. (1993). Successful Adolescent Development Among Youth in High-Risk Settings. *American Psychologist,* 117-126.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1986). *Drug Use Among American High School Students, College Students, and Other Young Adults: National Trends Through 1985.* Rockville MD: National Institutes on Drug Abuse.

Jones, F. R. and Swain, M. T. (1977). Self Concept and Delinquency Proneness. *Adolescence,* **12,** 559-569.

Jorgensen, S. R., and Alexander, S. J. (1983). Research on Adolescent Pregnancy Risk: Implications for Sex Education Programs. *Theory into Practice,* **22,** 125-133.

Kafka, R. R. and London, P. (1991). Communication in Relationships and Adolescent Substance Use: The Influence of Parents and Friends. *Adolescence,* **26,** 587-597.

Kandel, D. B., Kessler, R. C., & Margulies, R. Z. (1978). *Antecedents of Adolescent Initiation into Stages of Drug Use: A Developmental Analysis.* In D. B. Kandel (Ed.) *Longitudinal Research and Drug Use: Empirical Findings and Methodological Issues* (pp. 73-98). Washington, DC: Hemisphere.

Kantor, L. M. (1992). Scared Chaste? Fear-Based Educational Curricula. *SIECUS Report,* 1-21.

Keddie, A. M. (1992). Psychosocial Factors Associated with Teenage Pregnancy in Jamaica. *Adolescence,* **27,** 873-890.

Kelley, K., Smeaton, G., Byrne, D., Przybyla, D. P. J., & Fisher, W. A. (1987). Sexual Attitudes and Contraception Among Females Across Five College Samples. *Human Relations,* **40,** 237-254.

Kelly, J. A., St. Lawrence, J. S., Hood, H. V., & Brasfield, T. L. (1989). Behavioural Intervention to Reduce AIDS Risk Activities. *Journal of Consulting and Clinical Psychology,* **57,** 60-67.

Khlentzos, M. T. and Pagliaro, M. A. (1965). Observations from Psychotherapy with Unwed Mothers. *American Journal of Orthopsychiatry,* **35,** 779-786.

Kirby, D. (1989). Research on Effectiveness of Sex Education Programs. *Theory into Practice,* **28,** 165-171.

Kirby, D. (1992/93). Sexuality Education: It can Reduce Unprotected Intercourse. *SIECUS Report,* 19-25.

Kobak, R. R. and Sceery, A. (1988). Attachment in Late Adolescence: Working Models, Affect Regulation, and Representations of Self and Others. *Child Development,* **59,** 135-146.

Koniak-Griffin, D. (1989). Psychosocial and Clinical Variables in Pregnant Adolescents. *Journal of Adolescent Health Care,* **10,** 23-29.

Leigh, B. C., Morrison, D. M., Trocki, K., & Temple, M. T. (1994). Sexual Behaviour of American Adolescents: Results from a U.S. National Survey. *Journal of Adolescent Health,* **15,** 117-125.

Lester, D., Doscher, K., Estrict, M. & Lee, R. (1984). Correlates of a Romantic Attitude Toward Love. *Psychological Reports,* **55,** 794.

Leung, K. and Drasgow, F. (1986). Relation Between Self Esteem and Delinquent Behaviour in three Ethnic Groups. *Journal of Cross-Cultural Psychology,* **17,** 151-167.

Levy, M. B. and Davis, K. E. (1988). Lovestyles and Attachment Styles Compared: Their Relations to each Other and to Various Relationship Characteristics. *Journal of Social and Personal Relationships,* **5,** 439-471.

Lineberger, M. R. (1987). Pregnant Adolescents Attending Prenatal Parent Education Classes: Self Concept, Anxiety and Depression Levels. *Adolecence,* **22,** 179-193.

Loewenstein, G. and Furstenberg, F. (1991). Is Teenage Sexual Behaviour Rational? *Journal of Applied Social Psychology,* **21,** 957-986.

Lund, N. L. and Salary, H. M. (1980). Measured Self Concept im Adjudicated Juvenile Offenders. *Adolescence,* **15,** 65-74.

Lynskey, M. T. and Fergusson, D. M. (1993). Sexual Activity and Contraceptive Use amongst Teenagers under the age of 15 years. *New Zealand Medical Journal,* **106,** 511-514.

Maskill, C. (Ed.) (1991). *A Health Profile of New Zealand Adolescents.* Wellington, NZ: Department of Health.

Maslach, G. and Kerr, G. B. (1983). Tailoring Sex Education Programs to Adolescents- A Strategy for the Primary Prevention of Unwanted Adolescent Pregnancies. *Adolescence,* **18,** 449-456.

McCollough, M. and Scherman, A. (1991). Adolescent Pregnancy: Contributing Factors and Strategies for Prevention. *Adolescence,* **26,** 809-816.

McCormick, C. B. and Kennedy, J. H. (1994). Parent-Child Attachment Working Models and Self Esteem in Adolescence. *Journal of Adolescence,* **23,** 1-18.

Medora, N. P., Goldstein, A., & Von Der Hellen, C. (1993). Variables Related to Romanticism and Self Esteem in Pregnant Teenagers. *Adolescence,* **28,** 159-170.

Meech, R. (1994). *The Integration of STD and HIV/AIDS Services.* Unpublished Manuscript: Public Health Commission Discussion Paper.

Melchert, T. and Burnett, K. F. (1990). Attitudes, Knowledge, and Sexual behaviour of High Risk Adolescents: Implications for Counselling and Sexuality Education. *Journal of Counselling and Development,* **68,** 293-297.

Mikulincer, M. and Nachshon, O. (1991). Attachment Styles and PAtterns of Self-Disclosure. *Journal of Personality and Social Psychology,* **61,** 321-331.

Miller, B. C. and Moore, K. A. (1990). Adolescent Sexual Behaviour, Pregnancy, and Parenting: Research throgh the 1980's. *Journal of Marriage and the Family,* **52,** 1025-1044.

Morrison, D. M. (1989). Predicting Contraceptive Efficacy: A Discriminant Analysis of Three Groups of Adolescent Women. *Journal of Applied and Social Psychology,* **19,** 1431-1452.

Morrison, D. M., Baker, S. A., & Gillmore, M. R. (1994). Sexual Risk Behavior, and Condom USe Among Adolescents in Juvenile Detention. *Journal of Youth and Adolescents,* **23,** 271-288.

Mott, F. L. and Haurin, R. J. (1988). Linkages between Sexual Activity and Alcohol and Drug Use Among American Adolescents. *Family Planning Perspectives,* **20,** 128-136.

Musick, J. S. (1993). *Young Poor and Pregnant. The Psychology of Teenage Motherhood.* New Haven: Yale University Press.

Newcomb, M. D. and Bentler, P. M. (1988). Impact of Adolescent Drug Use and Social Support on Problems of Young Adults: A Longitudinal Study. *Journal of Abnormal Psychology,* **97,** 64-75.

Newcomb, M. D. and Bentler, P. M. (1989). Substance Use and Abuse Among Children and Teenagers. *American Psychologist,* 242-248.

Osborne, W. L. and Legette, H. R. (1982). Sex, Race, Grade Level, and Social Class Differences in Self Concept. *Measurement and Evaluation in Guidance,* **14,** 195-201.

Owens, J. L. (1992). *Achieving Effectiveness in Intervention.* An Unpublished Manuscript commissioned by the New Zealand Family Planning Association.

Oz, S. and Fine, M. (1988). A Comparison of Childhood Backgrounds of Teenage Mothers and their Non-Mother Peers: A New Formulation. *Journal of Adolescence,* **11,** 251-261.

Patten, M. A. (1981). Self Concept and Self Esteem: Factors in Adolescent Pregnancy. *Adolescence,* **16,** 765-778.

Peterson, C. (1989). *Looking Forward Through the Lifespan. Developmental Psychology* (2nd Ed.). New York: Prentice Hall.

Phipps-Yonas, S. (1980). Teenage Pregnancy and Motherhood: A Review of the Literature. *American Journal of Orthopsychiatry,* **50,** 302-307.

Plant, M. A., Bagnall, G., & Foster, J. (1990). Teenage Heavy Drinkers: Alcohol-Related Knowledge, Beliefs, Experiences, Motivation and the Social Context of Drinking. *Alcohol and Alcoholism,* **25,** 691-698.

Plant, M. A. and Foster, J. (1991). Teenagers and Alcohol: Results of a Scottish National Survey. *Drug and Alcohol Dependence,* **28,** 203-210.

Plant, M. and Plant, M. (1992). *Risk-Takers: Alcohol, Drugs, Sex and Youth.* London: Routledge.

Pope, H. G., Ionescu-Pioggia, M., Aizley, H. G., & Varma, D. K. (1990). Drug Use and Life Style Among College Undergraduates in 1989: A Comparison with 1969 and 1978. *American Journal of Psychiatry,* **147,** 998-1001.

Protinsky, H., Sporakowski, M., & Atkins, P. (1982). Identity Formation: Pregnant and Non-Pregnant Adolescents. *Adolescence,* **17,** 73-80.

Reber, A. S. (1985). *The Penguin Dictionary of Psychology.* England: Penguin Books.

Reichelt, P. A. (1986). Public Policy and Public Opinion Toward Sex Education and Birth Control for Teenagers. *Journal of Applied Social Psychology,* **16,** 95-106.

Repucci, N. D. (1987). Prevention and Ecology: Teen-Age Pregnancy, Child Sexual Abuse, and Organized Youth Sports. *American Journal of Community Psychology,* **15,** 1-22.

Rob, M., Reynolds, I., & Finlayson, P. F. (1990). Adolescent Marijuana Use: Risk Factors and Implications. *Australian and New Zealand Journal of Psychiatry,* **24,** 47-56.

Robbins, C., Kaplan, H. B., & Martin, S. S. (1985). Antecedents of Pregnancy Among Unmarried Adolescents. *Journal of Marriage and the Family,* 567-583.

Robinson, R. B. and Frank, D. I. (1994). The Relation Between Self Esteem, Sexual Activity, and Prengnancy. *Adolescence,* **29,** 27-35.

Robson, P. J. (1988). Self Esteem - A Psychiatric View. *British Journal of Psychiatry,* **153,** 6-15.

Robinson, J. P. and Shaver, P. R. (Eds.) (1973). *Measures of Social Psychological Attitudes.* Michigan, U. S.: Ann Arbor.

Robson, P. (1989). Development of a new Self-Report Questionnaire to Measure Self Esteem. *Psychological Medicine,* **19,** 513-518.

Rodman, H., Lewis, S. H., & S. B. Griffith. (1984). *The Sexual Rights of Adolescents: Competence, Vulnerability and Parental Control.* New York: Columbia University Press.

Romig, C. A. and Bakken, L. (1990). Teens at Risk for Pregnancy: the Role of Ego Development and Family Processes. *Journal of Adolescence,* **13,** 195-199.

Routledge, M. and Taylor, A. (1981). *Young People and Alcohol: A National Survey of 3,000 School Students.* Wellington, New Zealand: New Zealand Council for Educational Research.

Rubenstein, E., Panzarine, S., & Lanning, P. (1990). Peer Counselling with Adolescent Mothers: A Pilot Program. *Families in Society: The Journal of Contemporary Human Services,* **71,** 136-141.

Schilling, R. F. and McAlister, A. L. (1990). Preventing Drug USe in Adolescents Through Media Interventions. *Journal of Consulting and Clinical Psychology,* **58,** 416-424.

Schinke, S. P. (1984). Preventing Teenage Pregnancy. *Progress in Behaviour Modification,* **16,** 31-64.

Schneider, S. (1982). Helping Adolescents deal with Pregnancy: A Psychiatric Approach. *Adolescence,* **17,** 285-292.

Schultz, L. G. (1986). Enhancing Adolescents' Sexual Development and Feeling of Self Worth. *Journal of Social Work and Human Sexuality,* **5,** 15-22.

Scott, J. W. (1983). The Sentiments of Love and Aspirations for Marriage and their Association with Teenage Sexual Activity and Pregnancy. *Adolescence,* **18,** 889-897.

Shaver, P. R. and Brennan, K. A. (1992). Attachment Styles and the "Big Five" Personality Traits: Their Connections with Each Other and with Romantic Relationship Outcomes. *Personality and Social Psychology Bulletin,* **18,** 536-545.

Shtarkshall, R. A. (1987). Motherhood as a Dominant Feature in the Self Image of Female Adolescents of Low Socioeconomic Status. *Adolescence,* **22,** 565-570.

Simpson, J. A. (1990). Influence of Attachment Styles on Romantic Relationships. *Journal of Personality and Social Psychology,* **59,** 971-980.

Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support Seeking and Support Giving Within Couples in an Anxiety-Provoking Situation: The Role of Attachment Styles. *Journal of Personality and Social Psychology,* **62,** 434-446.

Small, S. A. and Luster, T. (1994). Adolescent Sexual Activity: An Ecological, Risk-Factor Appproach. *Journal of Marriage and the Family,* **56,** 181-192.

Small, S. A., Silverberg, S. B., & Kerns, D. (1993). Adolescents' Perceptions of the Costs and Benefits of Engaging in Health-Compromising Behaviors. *Journal of Youth and Adolescence,* **22,** 73-87.

Sperling, M. B. and Berman, W. H. (1991). An Attachment Classification of Desperate Love. *Journal of Personality Assessment,* **56,** 45-55.

Stafford, J. (1987). Accounting for the Persistence of Teenage Pregnancy. *Social Casework: The Journal of Contemporary Social Work,* 471-476.

Stall, R. (1987). The Prevention of HIV Infection Associated with Drug and Alcohol Use During Sexual Activity. *Advances in Alcohol and Substance Abuse,* **7,** 73-88.

Stall, R., McKusick, L., Wiley, J., Coates, T. J., & Ostrow, D. G. (1986). Alcohol and Drug Use During Sexual Activity and Compliance with Safe Sex Guidelines for AIDS: The AIDS Behavioral Research Project. *Health Education Quarterly,* **13,** 359-371.

Stark, E. (1986). Young, Innocent and Pregnant. *Psychology Today,* 28-35.

Streetman, L. G. (1987). Contrasts in the Self Esteem of Unwed Teenage Mothers. *Adolescence,* **22,** 459-464.

Strunin, L. and Hingson, R. (1992). Alcohol, Drugs, and Adolescent Sexual Behaviour. *The International Journal of the Addictions,* **27,** 129-146.

Studer, M. and Thornton, A. (1987). Adolescent Religiosity and Contraceptive Usage. *Journal of Marriage and the Family,* **49,** 117-128.

Swenson, I. E. (1992). A Profile of Young Adolescents Attending A Teen Family Planning Clinic. *Adolescence,* **27,** 647-654.

Takanishi, R. (1993). The Opportunities of Adolescence- Research, Interventions, and Policy. *American Psychologist,* 85-87.

Trad, P. V. (1993). Adolescent Pregnancy: An Intervention Challenge. *Child Psychiatry and Human Development,* **24,** 99-113.

Walton, F. R., Ackiss, V. D., & Smith, S. N. (1991). Education Versus Schooling- Project LEAD: High Expectations! *Journal of Negro Education,* **60,** 441-453.

Ward, T., Hudson, S. M., & Marshall, W. L. (in press). *Attachment Style and Intimacy Deficits in Sex Offenders: A Theoretical Framework.* Unpublished Manuscript.

Watkins, D., Alabaster, M., & Frremantle, S. (1988). Assessing the Self Esteem of New Zealand Adolescents. *New Zealand Journal of Psychology,* **17,** 32-35.

Watson, P. E., Wilson, M. N., & Harding, W. R. (1986). Blood Alcohol Levels in Urban Adolescents. *New Zealand Medical Journal,* 446-449.

Weatherley, A. (1993). *The Relationship between Self Esteem, the Knowledge of Contraception and the Sexual Activity of 16-18 year old Girls.* Unpublished Manuscript, Project: Psychology 32.420, Auckland University.

Weinstein, E. and Rosen, E. (1991). The Development of Adolescent Sexual Intimacy: Implications for Counselling. *Adolescence,* **26,** 331-339.

Welbourne-Moglia, A. and Moglia, R. J. (1989). Sexuality Education in the United States: What it is; What it is meant to be. *Theory into Practice,* **28,** 159-164.

Whitley, B. E. and Hern, A. L. (1991). Perceptions of Vulnerability to Pregnancy and the Use of Effective Contraception. *Personality and Social Psychology Bulletin,* **17,** 104-110.

Wong, A. (1992). *Option Term Reprot: An Overview of Adolescent Pregnancy in Australia.* Unpublished Manuscript.

Yamaguchi, K. and Kandel, D. (1987). Drug USe and Other Determinants of Premarital Pregnancy and Its Outcome: A Dynamic Analysis of Competing Life Events. *Journal of Marriage and the Family,* **49,** 257-270.

Yawn, B. P. and Yawn, R. A. (1993). Adolescent Pregnancies in Rural America: A Review of the Literature and Strategies for Primary Prevention. *Community Health,* **16,** 36-45.

Yesmont, G. A. (1992). The Relationship of Assertiveness to College Students Safer Sex Behaviors. *Adolescence,* **27,** 253-272.

Zaslow, M. J. and Takanishi, R. (1993). Priorities for Research on Adolescent Development. *American Psychologist,* 185-192.

Zongker, C. A. (1977). The Self Concept of Pregnant Adolescent Girls. *Adolescence,* **12,** 477-488.

Zongker, C. A. (1980). Self Concept Differences between Single and Married School Age Mothers. *Journal of Youth and Adolescence,* **9,** 175-184.

APPENDIX A:

QUESTIONNAIRE

ADOLESCENT PREGNANCY

You are invited to participate in this research project on adolescent pregnancy. The aim of the project is to investigate whether any differences exist between adolescents who become pregnant and those who do not.
The questionnaire is anonymous, and you will not be identified as a subject. You may at any time and for any reason withdraw your participation. By completing the questionnaire, however, it will be understood that you have consented to participate in the project, and that you consent to publication of the results of the project.

The Questionnaire will take about 25 minutes to complete, but there is no time limit, you may take as long as you wish.

When finished, please place the questionnaire in the box provided, or in the stamped envelope provided, and post it to me.

This is not a test, there are no right or wrong answers.

DO NOT PUT YOUR NAME ON THE QUESTIONNAIRE.

PLEASE READ THE INSTRUCTIONS CAREFULLY.

THANK-YOU.

QUESTIONNAIRE 1

Please circle the number beside the answer which best describes you.

1. How old are you?

1. 14
2. 15
3. 16
4. 17
5. 18
6. 19

2. How would you describe yourself?

1. Pakeha / European
2. New Zealand Maori
3. Pacific Islander - island of origin: _____
4. Asian
5. Other - please specify - _____

3. Are your parents:

1. together
2. separated / divorced
3. remarried
4. never been married
5. deceased

4. How many brothers and sisters do you have?

1. none
2. one
3. two
4. three
5. four
6. more than four

5. Have you had sexual intercourse?

1. yes
2. no **if no, please go on to question 18.**

6. How old were you when you first had sexual intercourse?

_____

7. How often do you use contraception?

1. never
2. sometimes
3. almost always
4. I have never had sex without using contraception.

8. If you use contraception, which method do you use?

1. the withdrawal method
2. the pill
3. condoms
4. the pill and condoms
5. depo-provera injection
6. other - please specify _____

9. Are you pregnant at the moment?

1. yes
2. no

10. Have you ever been pregnant in the past?

1. yes
2. no

11. Have you ever been forced to have sexual intercourse with someone?

1. yes
2. no

QUESTIONNAIRE 2

Please circle the number beside the answer which best describes you.

1. I am not embarrassed to let people know my opinions.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

2. I seem to be very lucky.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

3. I'm easy to like.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

4. If a task is difficult that just makes me all the more determined.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

5. There are lots of things I'd change about myself if I could.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

6. I can never seem to achieve anything worthwhile.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

7. I don't care what happens to me.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

8. I have control over my own life.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

9. Most people find me reasonably attractive.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

10. I'm glad I'm who I am.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

11. Most people would take advantage over me if they could.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

12. I am a reliable person.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

13. It would be boring if I talked about myself.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

14. When I'm successful there's usually a lot of luck involved.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

15. I have a pleasant personality.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

16. I never feel down in the dumps for very long.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

17. I often feel humiliated.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

18. I can usually make my mind up and stick to it.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

19. Everyone else seems much more confident and contented than me.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

20. Even when I quite enjoy myself there doesn't seem much purpose to it all.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

21. I often worry about what other people are thinking of me.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

22. There's a lot of truth in the saying "what will be, will be."

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

23. I look awful these days.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

24. If I really try I can overcome most of my problems.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

25. It's pretty tough to be me.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

26. I feel emotionally mature.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

27. When people criticize me I often feel helpless and second rate.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

28. When progress is difficult, I often find myself thinking it's just not worth the effort.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

29. I can like myself even when others don't.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

30. Those who know me well are fond of me.

0 1 2 3 4 5 6 7
completely disagree agree completely
disagree agree

QUESTIONNAIRE 3

Please circle the number beside the answer which best describes you.

1. Have you ever tried alcohol?
    1. yes
    2. no **If no, please go on to QUESTIONNAIRE 4.**

2. How often do you drink alcohol?
    1. Christmas and special occasions only.
    2. About once every two months.
    3. About once a month.
    4. About once a week.
    5. About twice a week.
    6. Every day.

3. What do you usually drink?
    1. beer
    2. wine
    3. spirits
    4. whatever is available
    5. other, please specify _____

4. How many drinks containing alcohol do you have on a typical day (or night) when you are drinking?
    1. 1 or 2
    2. 3 or 4
    3. 5 or 6
    4. 7 to 9
    5. 10 or more.

5. How many times in the past six months, after drinking alcohol, have you:

	never	**once or twice**	**3 to 5 times**	**6 to 8 times**	**every week**
(a) felt a bit drunk?	1	2	3	4	5
(b) felt really drunk?	1	2	3	4	5
(c)been unable to remember things due to drinking?	1	2	3	4	5
(d) vomitted due to alcohol?	1	2	3	4	5
(e) passed out from drinking too much?	1	2	3	4	5

QUESTIONNAIRE 4

(1) Following are descriptions of four romantic relationship styles that people often report. Please read each description and CIRCLE the letter corresponding to the style that best describes you or is closest to the way you generally are in your romantic relationship(s).

If you have not had a romantic relationship please imagine how you would be likely to feel in one.

A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

(2) Please rate each of the following relationship styles according to the EXTENT to which you think each description corresponds to your romantic style.

A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

	not at all like me			somewhat like me			very much like me
STYLE A.	1	2	3	4	5	6	7
STYLE B.	1	2	3	4	5	6	7
STYLE C.	1	2	3	4	5	6	7
STYLE D.	1	2	3	4	5	6	7

(3) Please read each of the following statements and rate the extent to which it describes your feelings about romantic relationships. Think about all of the romantic relationships you have had, past and present, and respond in terms of how you generally feel in these relationships.

If you have not had a romantic relationship please imagine how you would be likely to feel in one.

	not at all like me		somewhat like me		very much like me
1. I find it difficult to depend on other people.	1	2	3	4	5
2. It is very important to me to feel independent.	1	2	3	4	5
3. I find it easy to get emotionally close to others.	1	2	3	4	5
4. I want to merge completely with another person.	1	2	3	4	5
5. I worry that I will be hurt if I allow myself to become too close to others.	1	2	3	4	5
6. I am comfortable without close emotional relationships.	1	2	3	4	5
7. I am not sure that I can always depend on others to be there when I need them.	1	2	3	4	5
8. I want to be completely emotionally intimate with others.	1	2	3	4	5
9. I worry about being alone.	1	2	3	4	5
10. I am comfortable depending on other people.	1	2	3	4	5
11. I often worry that romantic partners don't really love me.	1	2	3	4	5

	not at all like me		somewhat like me		very much like me
12. I find it difficult to trust others completely.	1	2	3	4	5
13. I worry about others getting too close to me.	1	2	3	4	5
14. I want emotionally close relationships.	1	2	3	4	5
15. I am comfortable having other people depend on me.	1	2	3	4	5
16. I worry that others don't value me as much as I value them.	1	2	3	4	5
17. People are never there when you need them.	1	2	3	4	5
18. My desire to merge completely sometimes scares people away.	1	2	3	4	5
19. It is very important to me to feel self-sufficient.	1	2	3	4	5
20. I am nervous when anyone gets too close to me.	1	2	3	4	5
21. I often worry that romantic partners won't want to stay with me.	1	2	3	4	5
22. I prefer not to have other people depend on me.	1	2	3	4	5
23. I worry about being abandoned.	1	2	3	4	5
24. I am somewhat uncomfortable being close to others.	1	2	3	4	5
25. I find that others are reluctant to get as close as I would like.	1	2	3	4	5
26. I prefer not to depend on others.	1	2	3	4	5
27. I know that others will be there when I need them.	1	2	3	4	5

28. I worry about having others not accept me.	1	2	3	4	5
29. Romantic partners often want me to be closer than I feel comfortable being.	1	2	3	4	5
30. I find it relatively easy to get close to others.	1	2	3	4	5

APPENDIX B: LETTER TO AGENCIES

27 Highfield Place
Christchurch 4
Tel: (03) 3582-686

Dear **(name of staff member)**,

Hi! I am a Masters student at Canterbury University and this year I am researching adolescent pregnancy. I also work at Family Planning, where I am also recruiting subjects.

I have enclosed a copy of my research proposal, information sheet and questionnaire, all of which have been approved by the University of Canterbury Human Ethics Committee.

If you choose to participate, your staff will be required to mention the study to the young women who come to your clinic. However, I realize that some of the young women will be distressed, therefore you may choose not to mention it to some of them, which I understand completely.

Staff will be required to explain to the young women that, if they choose to participate, they have three options. They can either complete the questionnaire while at the centre (in the waiting room or in a spare room,if available), they can take it home and return it to your centre at a later date, or they can take one of the stamped, addressed envelopes provided and post it back to me.

The questionnaire is measuring the behaviour and feelings of these young women before they became pregnant, so please remind subjects of that before they complete the questionnaire.

I hope you are able to help, as this area is in desperate need of further research so that we can better understand it and improve prevention efforts.

Please phone me when you have reached a decision, and if you decide to participate I will forward the questionnaires and stamped envelopes to you.

Yours sincerely,

MELANIE BLEACH.

APPENDIX C: INFORMATION SHEET

UNIVERSITY OF CANTERBURY
DEPARTMENT OF PSYCHOLOGY

INFORMATION
ADOLESCENT PREGNANCY

You are invited to participate as a subject in the above-named research project. Please note that this research is not connected to **(name of school or agency)** in any way.

The aim of this project is to investigate whether any differences exist between adolescents who become pregnant and those who do not. Your involvement in this project will require you to fill out a series of questionnaires. These questionnaires cover personal details, personality traits, alcohol use and relationships.

It should take about 25 minutes to complete the questionnaire.

There are no obvious risks associated with this research. However some of the questions are quite personal and others require you to think quite deeply about yourself and your relationships. If, in completing the questionnaire, you feel distressed in any way, you may speak to a school counsellor/staff member, who will be able to refer you to the appropriate agencies.

The results of the project may be published. But you may be assured of the complete confidentiality of data gathered in the investigation. You are not required to put your name on the questionnaire, or any sort of code by which you could be identified. Details of individual subjects' answers will not be included in the write up of results, rather, results will appear as group statistics. Therefore there is no way that you or your individual results will be able to be identified.

The project is being carried out under the direction of Melanie Bleach, who can be contacted at 3582-686. She will be pleased to discuss any concerns you may have about participation in the project.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

APPENDIX D: CONSENT FORM

Dear parents/caregivers,

Hi! My name is Melanie Bleach and I am currently working towards a Masters degree in psychology. This year I am researching adolescent pregnancy. I also work at ____ High School so some of your children may have already had some contact with me. I am hoping to use female students from _____ High School as the control group of my study. The results from these students will be compared with results from pregnant adolescents of the same age in order to ascertain whether any differences exist.
Your daughter has volunteered to participate. This will involve filling out a series of questionnaires, which will take about 25 minutes. The questionnaires focus on general background details, personality traits, alcohol use and relationship styles. Subjects remain anonymous as names are not required. Results are confidential, and individual results will not feature in the write up of the project, as group statistics are more relevant. Your daughter is able to withdraw at any stage.
Your daughters participation would be most appreciated.

If you wish to know more about this project please do not hesitate to contact me (tel: 3582-686).

Please complete the form below and return it to school as soon as possible.

Please tick one box:

[ ] I/we give permission for my/our daughter to participate.

[ ] I/we would like more information on the research project.

[ ] I/we do not give permission for my/our daughter to participate.

Signature of parent/caregiver:_____

APPENDIX E: FOLLOW-UP QUESTIONNAIRE

POSSIBLE REASONS WHY FEW PREGNANT ADOLESCENTS OR ADOLESCENT MOTHERS AGREED TO COMPLETE THE QUESTIONNAIRE.

Please rank the following reasons, the most important as 1, through to the least important as 8.

___ The young women were too distressed about their pregnancy to participate.

___ It was considered inappropriate to ask the young women, because.....

___ The young women did not have very good written skills.

___ The young women gave a specific reason for not participating, such as.....

___ The young women did not have time to complete the questionnaire and did not want to take it home, because.....

___ The young women were worried that someone would find out who they were (i.e. it was not anonymous or confidential).

___ It was too difficult for staff members to remember to mention the questionnaire.

___ Other, please specify.....

ADDITIONAL COMMENTS:

(it would be great if you could offer some ideas for how some of these things could be improved)

APPENDIX F: RAW DATA

SUBJECT	QUESTIONNAIRE 2	QUESTIONNAIRE 3	QUESTIONNAIRE 4
	PREG./SEX.ACTIVE	SELF ESTEEM	ALCOHOL USE
1	pregnant	124	11
2	pregnant	151	8
3	pregnant	104	18
4	pregnant	126	14
5	pregnant	123	-
6	pregnant	130	-
7	pregnant	124	-
8	pregnant	104	-
9	pregnant	53	9
10	pregnant	136	16
11	pregnant	137	17
12	pregnant	194	-
13	pregnant	121	12
14	pregnant	163	12
15	non-preg/non-sex. act.	121	22
16	non-preg/non-sex. act.	134	9
17	non-preg/non-sex. act.	147	9
18	non-preg/non-sex. act.	153	7
19	non-preg/non-sex. act.	151	19
20	non-preg/non-sex. act.	109	12
21	non-preg/non-sex. act.	155	15
22	non-preg/non-sex. act.	134	7
23	non-preg/non-sex. act.	130	8
24	non-preg/non-sex. act.	156	-
25	non-preg/non-sex. act.	111	15

26	non-preg/non-sex. act.	156	7
27	non-preg/non-sex. act.	143	7
28	non-preg/non-sex. act.	167	14
29	non-preg/non-sex. act.	93	22
30	non-preg/non-sex. act.	130	10
31	non-preg/non-sex. act.	129	7
32	non-preg/non-sex. act.	123	21
33	non-preg/non-sex. act.	114	-
34	non-preg/sex. act.	145	14
35	non-preg/sex. act.	148	12
36	non-preg/sex. act.	162	-
37	non-preg/sex. act.	126	12
38	non-preg/sex. act.	142	7
39	non-preg/sex. act.	125	17
40	non-preg/sex. act.	89	23
41	non-preg/sex. act.	117	23
42	non-preg/sex. act.	162	14
43	non-preg/sex. act.	132	19
44	non-preg/sex. act.	113	19
45	non-preg/sex. act.	123	24
46	non-preg/sex. act.	106	23
47	non-preg/sex. act.	146	15
48	non-preg/sex. act.	100	16
49	non-preg/sex. act.	112	15

SUBJECT	QUESTIONNAIRE 4										
	ATTACHMENT STYLE										
	1.STYLE	2.A	B	C	D	3.S	F	P	D	final	general
1	4	1	5	5	7	3.8	1.50	2.00	3.80	4	dismissive
2	2	3	6	1	3	3.0	3.00	2.75	3.00	2	fearful
3	2	4	6	3	2	1.8	4.00	3.50	3.00	2	fearful
4	1	4	1	1	1	3.4	3.00	2.00	3.80	1	secure
5	1	6	5	4	3	3.0	2.50	3.00	3.20	1	secure
6	-	-	-	-	-	-	-	-	-	-	-
7	2	1	6	1	1	2.8	4.25	2.25	2.80	2	fearful
8	2	1	7	3	5	2.2	3.50	2.25	3.80	2	fearful
9	2	1	6	2	4	1.8	5.00	3.00	2.80	2	fearful
10	1	6	2	4	1	3.8	2.25	3.50	1.75	1	secure
11	1	7	3	1	2	4.0	2.00	3.25	3.00	1	secure
12	1	7	1	1	5	4.0	2.50	4.25	4.20	1	secure
13	1	6	5	1	3	3.4	2.75	1.50	3.00	1	secure
14	4	7	2	2	6	3.4	3.25	1.50	4.20	4	dismissive
15	2	4	6	3	5	2.2	3.75	3.75	3.60	2	fearful
16	1	5	3	2	4	3.0	2.75	3.25	3.80	4	dismissive
17	1	7	3	2	2	3.6	1.00	2.25	2.40	1	secure
18	2	3	6	3	3	3.2	3.75	2.75	2.80	2	fearful
19	1	6	3	2	5	4.2	1.25	2.00	2.80	1	secure
20	4	5	5	1	6	3.0	2.75	1.50	3.40	4	dismissive
21	2	2	7	6	1	3.2	3.50	3.75	3.20	3	preoccupd
22	1	4	2	3	3	3.6	2.25	3.00	2.80	1	secure
23	4	3	1	2	7	4.8	1.50	2.50	4.00	4	dismissive

	4	3	4	2	5	2.8	2.00	1.75	3.60	4	dismissive
	2	2	6	4	3	2.4	4.00	3.75	3.20	2	fearful
	1	5	2	3	3	4.0	1.75	2.25	2.40	1	secure
	2	4	7	4	7	2.8	3.75	2.50	4.20	4	dismissive
	1	6	6	1	5	4.4	2.00	2.25	3.00	1	dismissive
	2	2	6	4	1	2.6	4.25	3.25	3.20	2	fearful
	2	1	4	2	2	2.8	3.75	2.75	3.20	2	fearful
	2	2	4	1	5	3.0	2.50	1.75	2.60	4	dismissive
	3	2	3	5	2	2.8	2.75	3.25	2.80	3	preoccupd
	2	1	4	4	1	3.2	3.00	3.50	2.20	3	preoccupd
	1	6	3	2	5	4.2	1.50	2.50	3.20	1	secure
	2	4	6	2	3	3.6	3.00	2.75	3.40	2	fearful
	1	7	3	2	1	4.0	1.75	3.00	3.60	1	secure
	2	2	6	4	3	3.2	3.25	2.75	3.00	2	fearful
	4	4	2	2	6	3.4	1.50	2.00	3.60	4	dismissive
	1	5	1	1	2	3.8	1.25	2.50	2.00	1	secure
	3	6	3	6	2	2.2	3.75	4.00	3.20	3	preoccupd
	1	7	1	2	3	4.0	2.75	2.25	2.60	1	secure
	2	1	7	3	5	4.0	2.00	1.25	4.20	4	dismissive
	1	7	2	6	4	4.0	1.00	1.75	2.80	1	secure
	1	7	2	5	1	3.0	2.50	3.25	2.20	3	preoccupd
	1	6	3	4	2	3.2	2.50	3.50	2.80	3	preoccupd
	2	1	6	2	5	3.6	3.25	2.75	2.80	1	secure
	1	6	3	2	1	3.6	2.00	3.25	3.60	1	secure
	2	1	6	4	3	1.8	3.75	3.00	3.20	2	fearful
	2	1	7	6	6	2.2	4.25	2.50	4.20	2	fearful